FEBRUARY, 1971

WEEDS TREES and TURF

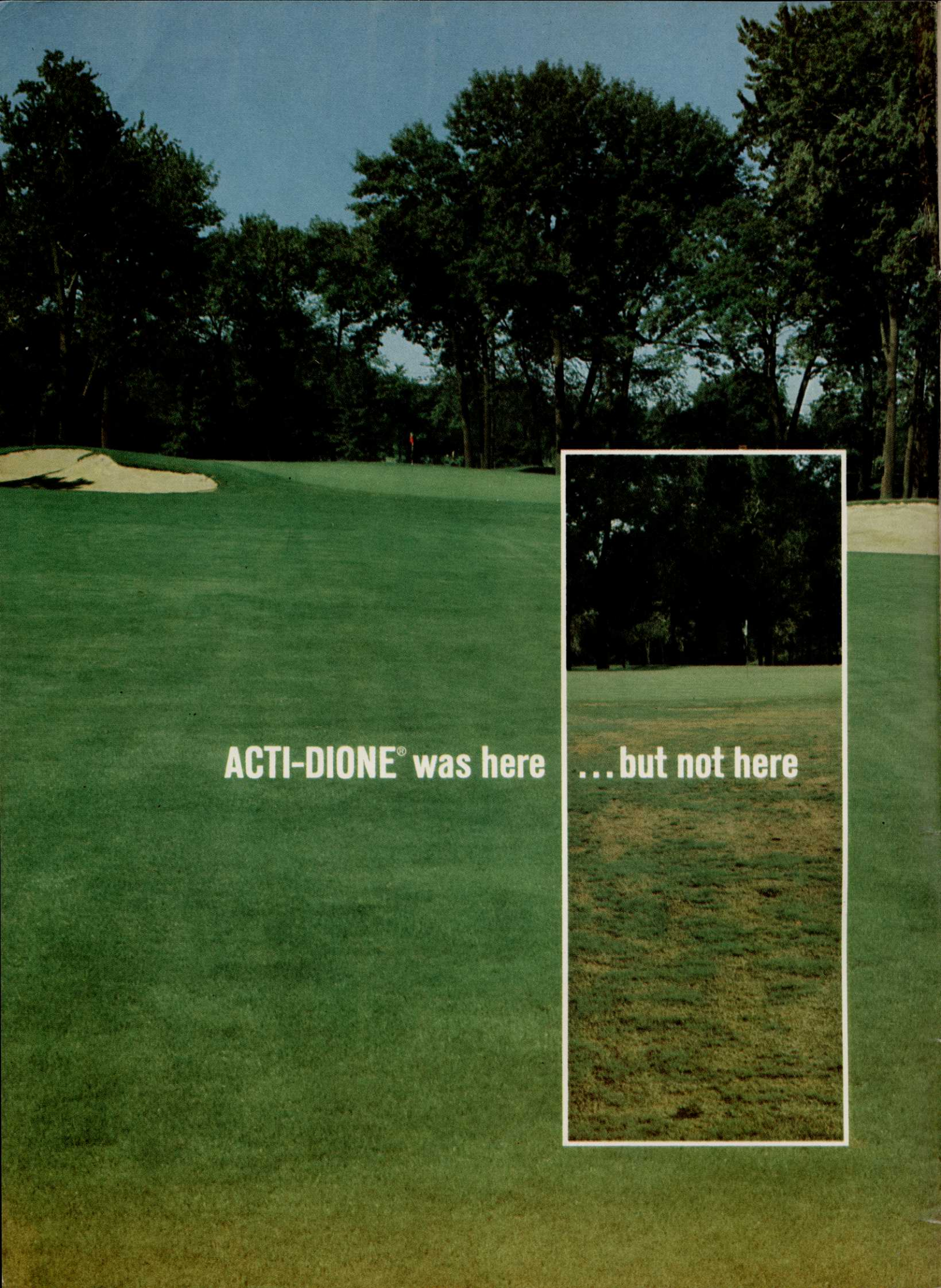
KIDWELL TURF FARMS

HOW TO FOUL UP A HERBICIDE PROGRAM

BADGER BILL OF PHOENIX

HELICOPTER SEEDS GOLF COURSE

IMPORTANT!
Subscription Renewal Notice
On Page 8


ACTI-DIONE® was here
. . . but not here

Use ACTI-DIONE® on Tees Greens Fairways

THESE PROVEN TURF FUNGICIDES HELP PREVENT OR ERADICATE

- ☐ Leafspot
- ☐ Dollarspot
- ☐ Melting-out
- ☐ Fading-out
- ☐ Going-out
- ☐ Brown patch
- ☐ Pink patch
- ☐ Rust
- ☐ Powdery mildew
- ☐ Pythium

Your golf course looks better and plays better when you have healthy turf

The unretouched photographs on the opposite page were taken the same day at golf courses less than 40 miles apart. The relative conditions of the two courses show what a difference diseases can make.

When you invest up to $50,000 a year in fertilizer weed control, water and management practices (verticutting, aerifying, mowing and the labor they require), your investment deserves the protection of a complete disease control program.

Many superintendents have discovered fairway disease control programs actually pay their own way by keeping golfers happier and by eliminating the problems and costs which arise when fairway turf is lost. The increased play from growing numbers of golfers is too much of a challenge for anything less than healthy turf.

The same basic principles and practices used to control disease on the greens apply to tees and fairways, even though the level of control on fairways is not so critical as that required on greens.

Although Acti-Dione turf fungicides can eradicate many turf diseases, prevention is always less expensive than cure. You should start your fairway spray program in the spring as soon as possible after the first mowing and continue the program on a scheduled basis—usually an interval of 21 to 30 days.

TUCO has both the proven products and the experienced personnel to help you in your scientific turf management program. Just a call will put one of our highly trained and expert field representatives to work explaining how you can maintain healthy tees, greens and fairways.

BEFORE USING ANY PESTICIDE **STOP** READ THE LABEL

TUCO Division, The Upjohn Company, Kalamazoo, Michigan 49001

For More Details Circle (121) on Reply Card

Meet a sharp new redhead from Oregon

This sharp redhead is new Oregon Micro Chisel saw chain. It's bound to become the new favorite of the man who wants top performance from his chain saw. Oregon's exclusive red coating protects this chain's factory sharpness against shipping damage. The first cut you make removes the protective coating.

You'll like Micro Chisel's high production—speed and efficiency that only a chisel-type chain can give. Cut more wood per chain, more wood per day. Its cutters slice through wood faster and more smoothly than other styles of chain. Easier on you and your saw. You can file this chisel-type cutter with a round file—quickly and easily.

Ask your Oregon dealer about new Oregon Micro Chisel chain. Now available in sizes to fit all popular saws.

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A CUT ABOVE THE REST

OREGON Saw Chain Division
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Treflan's effectiveness...

can't be watered down

Elanco's Treflan® forms a dependable weed control zone that works for months, then is gradually and naturally broken down without toxic residue.

Elanco's Treflan won't leach out of its protective zone despite heavy rainfall and repeated irrigation.

Elanco's Treflan is approved for use on more than 130 species of ornamentals.

Elanco's Treflan is the only herbicide that lets you set liner stock into just-treated soil.

Can be surface applied or soil incorporated.

Elanco Products Company, a division of Eli Lilly and Company, Dept. E-455, Indianapolis, Indiana 46206, U.S.A.

Treflan ELANCO

(Treflan®—trifluralin, Elanco)

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It Blows...It Dusts...and It Sprays...Better! Because It's a STIHL!

This is the STIHL SG-17 Mist-Blower that Everyone is Talking About!

It blows, dusts and sprays dry and liquid chemicals, etc. to kill weeds and insects; to fight plant and tree diseases and to perform many related jobs in the garden, on the farm and in nurseries.

It has also proven very versatile for spraying at construction jobs, blowing leaves and debris in sport stadiums, parks and recreation areas, in spraying cattle and dairy buildings and many new uses are being discovered every day.

You'll be amazed at its perfect balance and ease of handling and also at its very, very easy price. See for yourself. It's a STIHL!

»Newest from the Makers of the World's Finest Chain Saws«

STIHL American, Inc.

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For More Details Circle (133) on Reply Card

Special for This Issue

Watching Costs at Kidwell Turf 18

Jack Kidwell, Virginia's largest turf grower, knows exactly what his costs are. He has adapted a farm management computer service, offered by Virginia Polytechnic Institute.

Helicopter Seeding of a Golf Course 24

An Ohio contractor has found the helicopter can seed fairways in one-sixth the time of conventional methods.

How to Foul Up a Herbicide Program 28

Cecil F. Kerr, turf products manager for Chipman Div., Rhodia, Inc., lists 10 ways a golf course superintendent can use herbicides to put himself over a barrel or out of a job.

Let's Put the Care Back Into Tree Care 30

William (Badger Bill) Johnson moved his tree care business from Wisconsin to Phoenix, Ariz., and has showed the folks a thing or two about how a real arborist trims trees.

Landscape Outlook 34

An American Association of Nurserymen committee sees a bright future, with some new customers, new types of products, and new concept business practices.

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The Cover

Soil preparation for growing sod has some special wrinkles for Jack Kidwell, Virginia's largest cultivated turfgrass grower. Some of his land lies along the Rappahannock River. It's rolling and rocky. Consequently, a rock picker and a land leveler are essential. The rock picker is capable of removing 100 tons of stones per day. Used in conjunction with a spiked-tooth harrow, a field is worked until the rocks are removed from the top six inches. The land leveler helps prevent small depressions that can delay mowing, foster disease outbreaks, and hamper harvesting operations. Kidwell, left, is chatting with his farm manager, Ralph Firebaugh. Saturnino Espino is aboard the Ford 8000 pulling the Eversman land leveler; Jay Kidwell is on a Ford 5000 pulling the Anderson rock picker.

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WEEDS TREES and TURF®

Volume 10, No. 2 February, 1971

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Up in a Down Year

YOU CAN EXPECT a better magazine this year. One reason is that we've discovered how constant attention to self-improvement seems to make life more meaningful and worthwhile. Therefore each year, subscribing wholeheartedly to the Avis philosophy, "we try harder," but always setting goals just a smidgen beyond reach. That makes the philosophy perpetuating.

Other reasons for improving are your mushrooming interest in this magazine—and advertisers' reaction to your interest. Example: Last year, we forwarded to manufacturers some 28,000 inquiries from you concerning advertised products and new product announcements. The 1970 total was double the previous year!

Advertisers responded with enthusiasm, increasing their space purchases by 35%! Few magazines can report a gain in 1970.

So we're responding with some new features. One begins with this issue; another comes in March. There will be others.

On pages 12 and 14, you'll find "The National Greenscape." Our intention is to present a summary of events that may affect the "green scene" as we know it through the tree and turf care and weed control industries this magazine serves. More than a Washington column, it will report on developments from many sources—governments at all levels, universities, industries, professional associations, and so on.

Writing or finding an article that has nationwide application in vegetation care is extremely difficult, considering the different climatic regions and soil characteristics and the multitude of plant species. Yet ours is a national magazine, and we must seek the solution. Therefore, we're approaching the problem from a different angle. Coming in March, we are publishing an index listing *sources* of information. The first index is "100 References for Weed Control." The index will list source title, publisher, complete address, and the price, if there is one.

We hope to list sources from all parts of the country, and, as our search techniques improve, be able to provide you periodically with an index of information pertinent to your operations—wherever you are located. After the first index comes out, if you've found a helpful source we missed, let us know.

A word about the notice below. We're delighted with your growing interest in WEEDS TREES and TURF. Practically every day we get new requests to receive the magazine. Unfortunately, simple economics limits the number of magazines we can send free. (There are more who can qualify for a free subscription than we're able to send.) Consequently, we must serve the first 33,000 who fill out the renewal card stapled in above. (Of course, we shall happily enter your paid subscription at $10 per year!)

We hope your interest continues to grow (and particularly your support of our advertisers—who make the magazine possible). As it does, we shall then be able to consider other new and expanded services for you.

Gene Ingalsbe

TIME TO RENEW: Your Renewal Card Is Bound In Above

We need your okay to continue sending you WEEDS TREES and TURF magazine on a *free* basis. In fact, we must have it.

We—and other publishers—have been somewhat remiss in the past in that we've sent your copy of the magazine whether or not you sent your card in. This can no longer be done.

As you know, subscriptions are free to bona-fide members of the industry. You qualify. But economics has again reared its head and we must stabilize our circle of readers. We shall maintain the magazine circulation at 33,000—the number which constitutes the basis for our advertising rate. No additional magazines will be sent except at the published rate of $10 per year in the U. S. and Canada.

MAY WE HEAR FROM YOU—by way of the bound in card above? Simply tear it out—*SIGN* and check your answers. DO NOT LOSE YOUR FREE SUBSCRIPTION TO SOMEONE ELSE. We want your continued support and we need you on our list.

Thank you.

Art Edwards, Editorial Director

(This renewal notice is a requirement of our national auditing service to verify that you are a member of the industry and that you wish to receive the magazine.

Try Tandex on your own impartial panel of weed control experts.

Tandex can give you a more economical ground maintenance program.

Tandex is a soil sterilant. And it's proven its weed-killing power for use around industrial plant sites, storage areas, lumberyards, tank farms and the like. Broadleaf weeds, grasses, even woody species die when Tandex is applied. And its power persists for a season or longer.

Spray wettable Tandex powder (WP 80) or use the granular form. The handy five-pound plastic container is especially convenient. Tandex can be combined with fortified oils and other herbicides for special control situations.

Write to Department A, Niagara Chemical Division, FMC Corporation, Middleport, N.Y. 14105.

Tandex®

fmc

Industrial Chemicals, Niagara Chemical Division, Middleport, New York 14105

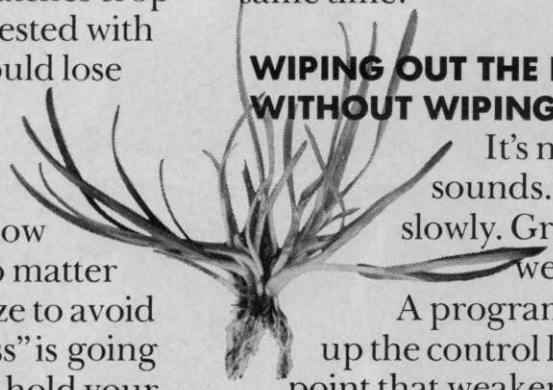
For More Details Circle (113) on Reply Card

How to remove the without removing

Every summer you've tried to hold your Poa annua. But suddenly it's unusually hot and humid and your fairways and greens start to wilt. Big brown patches crop up. You find your Poa annua infested with disease. You're in trouble. You could lose your fairways and greens.

Don't say it can't happen to you. It can. Because no matter how careful you are, no matter how much you water to avoid wilt, no matter how often and lightly you fertilize to avoid stress, one day your "failure grass" is going to fail. So why gamble and try to hold your Poa annua? Why not get rid of it before it fails?

How do you do it? How do you keep the course beautiful, the players playing, the Poa annua on the way out, and the desirable grasses on the way in, all at the same time?



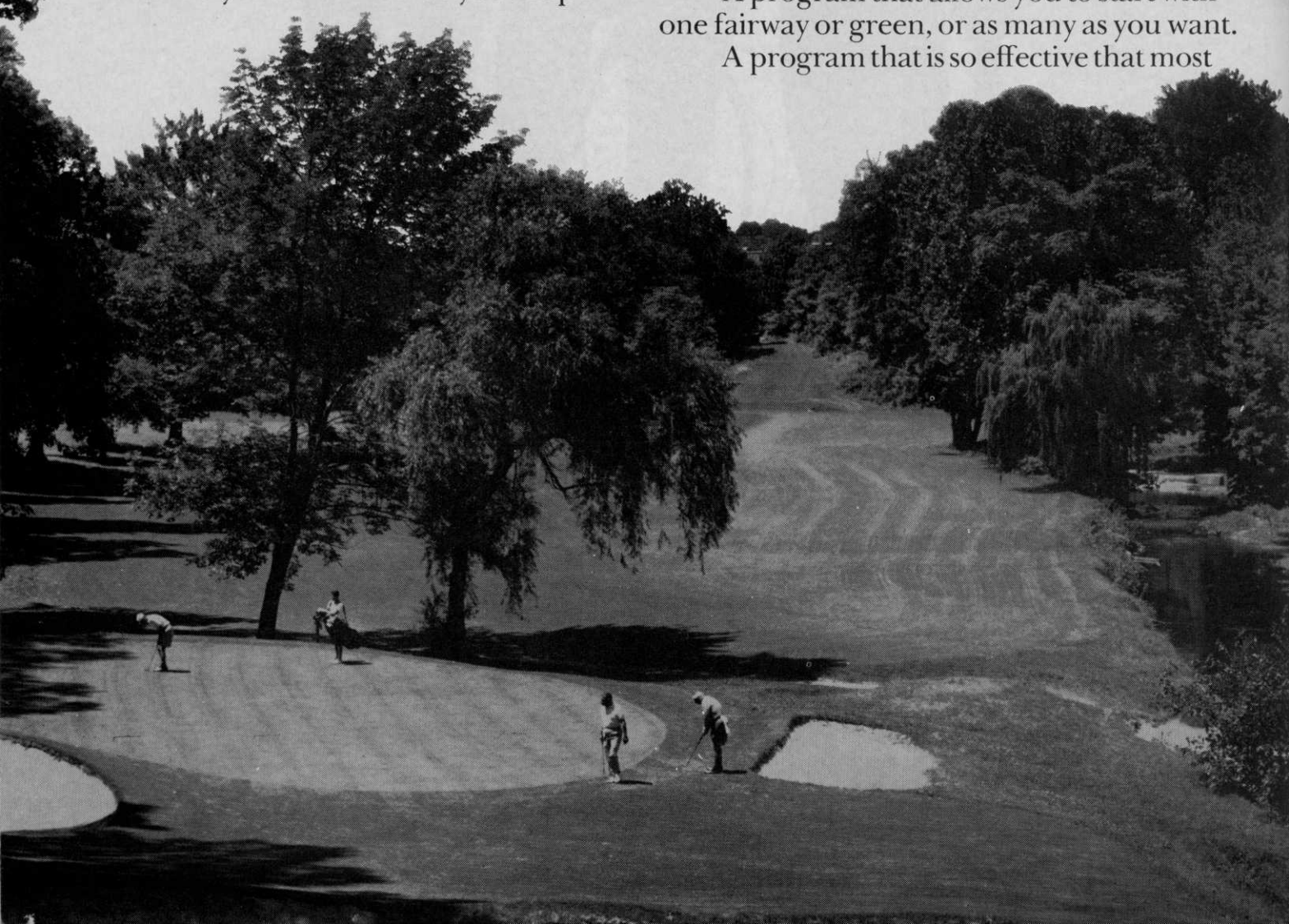
WIPING OUT THE POA ANNUA WITHOUT WIPING OUT THE COURSE

It's not as difficult as it sounds. Not if you do the job slowly. Gradually. With a simple, well thought out program.

A program that precisely builds up the control level in your soil to a point that weakens the Poa annua and allows the desirable bent and bluegrass to fill in.

A program that allows you to start with one fairway or green, or as many as you want.

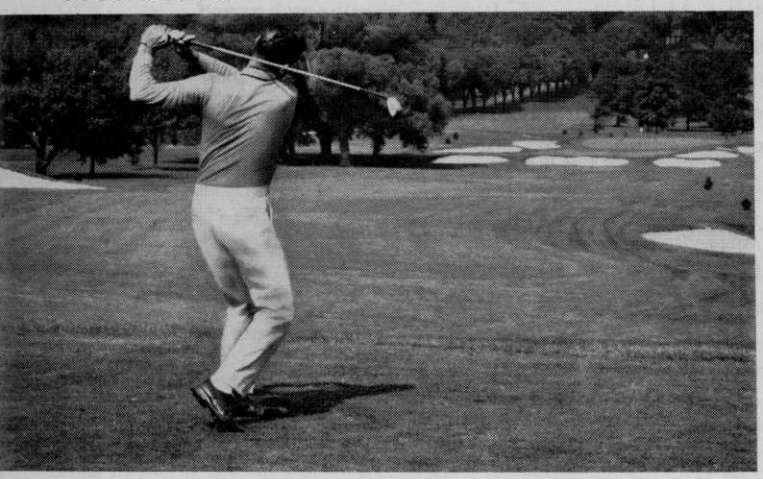
A program that is so effective that most



Poa annua the golfers

of your players won't even know that the course is being treated.

A program that even improves play by inhibiting the uneven, unsightly Poa annua seed heads.



A program that will work because it's already worked on many other courses.

A program that, in the final analysis, doesn't have to cost you an arm and a leg.

A SUCCESSFUL TESTED PROGRAM FOR THE GRADUAL REMOVAL OF POA ANNUA

This tested 6-point program is successfully eliminating the Poa annua at Greenbrier, National Cash Register Country Club and hundreds of other courses. It can do the same for you.

1. Drain low areas: Improve drainage of fairways with trenching and vertical slitting.
2. Correct soil acidity: Apply lime to greens or fairways if under a pH of 6.
3. Aerate, thatch or spike the grounds and eliminate phosphorous in your fertilizer program. Make room for new growth. Bring up some soil, get seed against soil. Overseed often.
4. Apply from 4 to 6 pounds of Chip-Cal Granular per 1,000 square feet on fairways, or 2 to 4 pounds on greens. Apply in the spring and fall. Vary application rates according to the percentage of Poa annua, available phosphate, pH and soil type.
5. Achieve Poa annua control: Light sandy soils low in phosphorus require less Chip-Cal to reach control.
6. Maintain control: Use 2 to 4 pounds of Chip-Cal per 1,000 square feet, either in the spring or fall. If Poa annua is dying too fast, use a liquid phosphate as a check valve.

Note: Chip-Cal Granular has been specially formulated for your Poa annua restriction program. It's granulated on a vermiculite base. Which helps give you a more uniform application and a more gradual release when you're building up your soil's control level. Chip-Cal also prevents crabgrass, goose grass, and controls soil insects and chickweed.

14 OTHER CHIPCO TURF PRODUCTS THAT TAKE CARE OF EVERYTHING FROM KNOTWEED TO SNOW MOLD

In addition to Chip-Cal Granular to control Poa annua, we have the most complete line of products to help you with your other turf problems.

For example, in the spring, Chipco Turf Herbicide MCPP controls clover and knotweed on greens and fairways. And in the summer, Chipco Microgreen improves your turf's health and vigor. Used in the fall and winter, Chipco Rho-Mold will prevent unsightly and destructive snow mold.

WANT TO KNOW MORE ABOUT POA ANNUA AND OTHER TURF PROBLEMS? WRITE US

We'll send you back everything you need to know.

Address: Chipco Turf Products Mgr., Rhodia, Inc., Chipman Division, Dept. GS, Box 2009, New Brunswick, New Jersey, 08903.

Rhodia

For More Details Circle (107) on Reply Card

the national GREENSCAPE

NOTICE OF CANCELLATION OF REMAINING DDT USES has been given by the Environmental Protection Agency. The action, says EPA head William Ruckelshaus, is in compliance with a recent order issued by the U.S. Court of Appeals for the District of Columbia. The order resulted from a 2-1 decision in January. Additionally, from the court decision, EPA has begun a 60-day review to determine whether DDT and "certain uses of 2,4,5-T" should be suspended as an imminent hazard to the public. Notice of cancellation was expected to be sent out by the third week in January. Interested parties then have 30 days to comment. DDT uses can continue during the review period on cancellation. If however, a suspension order should follow as the result of a decision on the "imminent hazard" review, then all interstate shipment must cease.

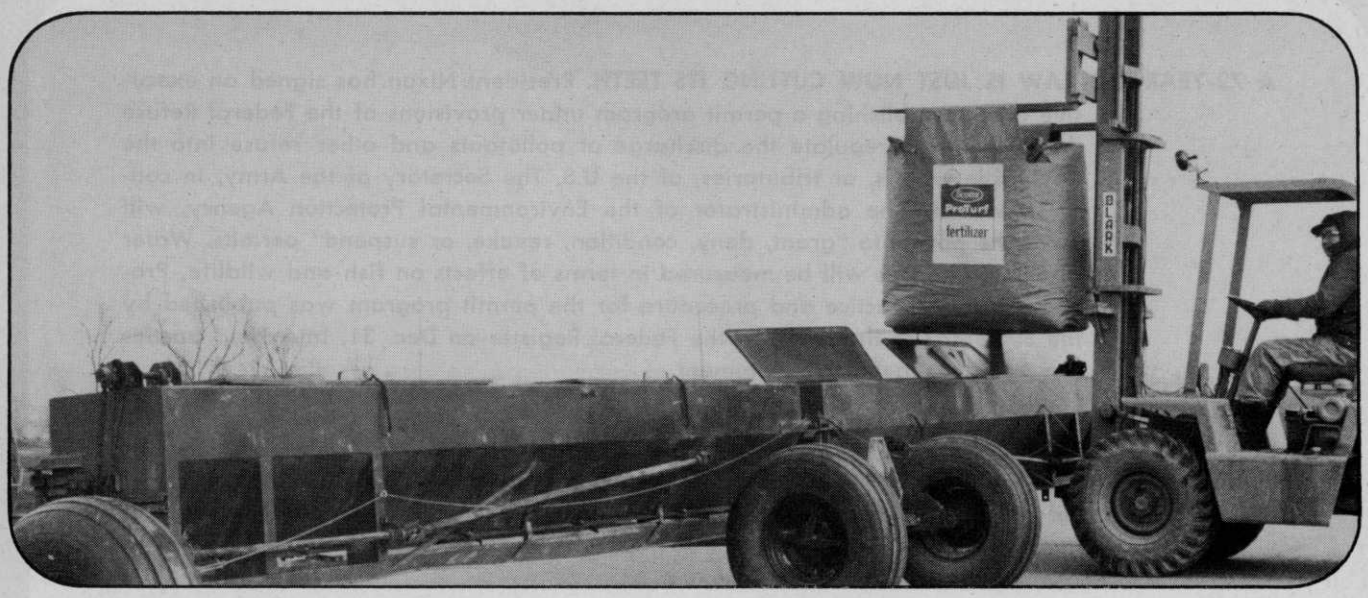
INFLATION WILL BE THE MAJOR BUSINESS PROBLEM IN 1971 because of recent labor settlements, believes Carl A. Gerstacker, chairman of the board for Dow Chemical Co. The increased labor cost is inflationary, he says, because it cannot be matched by a productivity increase. Gerstacker predicts physical output of chemicals will rise 7.5% while dollar sales will increase about 9%. He sees "perhaps 4%" average increases in prices.

LAND MANAGEMENT is almost the total answer to the quantity, quality, and control of the nation's water, according to Louis M. Glymph of USDA's soil and water conservation research division. In the clamor to clean up the nation's waters, he reminds that good conservation practices controlling run-off can prevent pesticide pollution. He estimates that sediments from croplands, unprotected forest soils, overgrazed pastures, stream channels, roads, and development sites in urban areas represent a volume of solids reaching U.S. waters that exceeds total sewage discharge loadings by at least 700 times.

A CROSSROADS OF PESTICIDE DEVELOPMENT has been reached by the chemical industry, states Dr. David Watson, director of product development for Velsicol Chemical Corporation. Because "costs have soared astronomically and regulatory requirements now surpass those used for drugs for human consumption," a frequent question in company board rooms is "whether to continue in business. Contrary to popular belief, the chemical industry will not always be able to produce new and better pesticides, he asserts. "The plain fact," he says, "is that the pesticide well is running dry," so the industry had better work together to save the materials it now has.

A SUBTLE CHANGE IN PUBLIC ATTITUDES ON PESTICIDES is seen by Edward K. Hertel, manager of FMC Corporation's Niagara Chemical Division. The real value of pesticides began to receive "more rational attention" this past year, and he believes "charges of under regulation and over regulation will likely diminish further in 1971." Because research and development costs have "increased dramatically," Hertel predicts the rate of new product introductions will decline and that many existing products will remain on the market longer than they might have otherwise.

Scotts presents 4 new ways to feed your sod field.



1. That monster bag with the sling handles. It holds nine acres of Scotts ProTurf fertilizer—which saves you heaps of buying and storing. Very handy. And besides fitting neatly onto the arms of a forklift, it's equipped with a sliding-panel trapdoor . . . but more about that later. First, here's what comes in that monster bag:

2. Scotts ProTurf Starter Fertilizer—if you're just beginning a field of tender seedlings. Available in both the nine-acre monster or standard half-acre bags, it's a lightweight homogeneous product that spreads easily and evenly. And, thanks to Scotts' research-backed balancing of phosphorus/potassium/nitrogen, it feeds your young field a rich, energetic diet. Trionized bonding insures a controlled nutrient diet especially for developing new turf seedlings.

3. Or Scotts ProTurf Sod Field Fertilizer, if your grass is at a later stage. It comes in the big sling bin or the half-acre bags, too. Like ProTurf Starter, it's surface-applied, odorless, and dust-free. Being a Polyform product, it has less bulk and weight — and its controlled release nurtures the seedlings at the time they really need it. As part of Scotts' total ProTurf program, this means you'll have an earlier crop than usual. Not to mention a better product.

4. Now. Back to the sliding trapdoor. Scotts designed it so when the monster bag's hanging there on the forklift, all the forklift operator has to do is lean forward . . . pull the sliding panel . . . and watch while the fertilizer empties out into a Superspreader. Superspreader has a fully extended wingspan of 28 feet and can handle four thousand pounds of fertilizer (about three and a half monster bags) at one clip. There's a new automatic feed shutoff: when you slow down, the feed slows down; when you stop, it stops. That means no more burnt patches or starved spots when you swing around to start a new row. And—a last beautiful touch—the same worm-gear feeder that provides accurate spreading can be cleaned out afterwards. In five minutes.

A really professional lineup, for really professional sod growers. Because Scotts understands sod. They've put a hundred years of grass-growing knowhow behind every one of these new products . . . years of lab research, greenhouse development, and plot testing. That's the best new product recommendation you can get anywhere.

Want to know more about the new ways Scotts help you feed your sod field? Send us the coupon below . . . or call us — collect — in Marysville, Ohio: 513/642-4015. Talk to Paul Florence and he'll give you all the information on the monster bag, ProTurf Starter Fertilizer, ProTurf Sod Field Fertilizer and the 28-foot Superspreader.

Scotts ProTurf®

O. M. Scott & Sons, Marysville, Ohio 43040

I want to know more about Scotts 4 new ways to feed my sod field.

Name _____

Address _____

City _____ *State*

For More Details Circle (108) on Reply Card

the national GREENSCAPE

A 72-YEAR-OLD LAW IS JUST NOW CUTTING ITS TEETH. President Nixon has signed an executive order establishing a permit program under provisions of the Federal Refuse Act of 1899 to regulate the discharge of pollutants and other refuse into the navigable waters, or tributaries, of the U.S. The Secretary of the Army, in consultation with the administrator of the Environmental Protection Agency, will have the power to "grant, deny, condition, revoke, or suspend" permits. Water quality standards will be measured in terms of effects on fish and wildlife. Proposed policy, practice and procedure for the permit program was published by the Secretary of the Army in the Federal Register on Dec. 31. Interested parties have 45 days in which to comment.

FEES WILL BE CHARGED for occupancy and use of designated National Forest Recreation Areas, effective Jan. 1, 1971. The fee is being established by the Chief of the Forest Service, and notices will be posted at each area. Failure to pay the fee can result in a $100 fine.

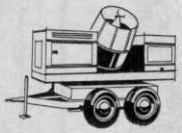
BIOLOGICAL PEST CONTROL PROGRAMS won't be realized until a great deal more in-depth research is accomplished, says USDA geneticist Dr. Angus A. Hanson. The day may come when a computer center programmed with a variety of ecosystem models can predict the consequences of any given practice. However, the resources "probably will not be available in the near future" to set up such models. Aside from the work and money required and the impossibility of predicting anything with certainty, Dr. Hanson says the biggest obstacle is getting people representing many disciplines to work together as a highly integrated unit.

ELEVEN NEW U. S. RECORDS were reported in the Cooperative Economic Insect Report for 1970. These included eight species new to the Western Hemisphere—seven in Hawaii and one in New York. There were also 123 new state records reported. States having 5 or more were: Hawaii, 17; Oregon, 10; Utah, 10; California, 9; Pennsylvania, 9; Arizona, 6; Missouri, 6; and Florida, West Virginia and Wisconsin, each 5.

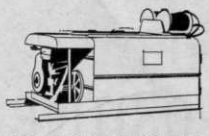
USDA HAS EXTENDED GYPSY MOTH REGULATED AREAS to 14 new counties in three states. They are: Broome, Chenango, Jefferson and St. Laurence in New York; Chester, Columbia, Dauphin, Delaware, Lancaster, Lebanon, Montour, Northumberland and Sullivan in Pennsylvania; and Cumberland in New Jersey. The entire state of New Jersey is now under regulation. The federal quarantine means that all timber products, woody plants, stone and quarry products and other articles that might be carrying the insect must be inspected and certified free of insects before being moved.

129 PLANT PESTS PER DAY WERE STOPPED from entering the U.S. in 1970, reports USDA. The inbound pests, some 47,000, included some of the world's most destructive insects and diseases, capable of damaging millions of dollars worth of U.S. crops, gardens, forests, and ornamentals. Interceptions were up 20% over the 1965-69 average, attributed primarily to increased air travel. About a quarter of million tons of sea and air cargo were cleared in Vietnam alone during the year.

This Rotomist® sprayer has the greatest "rate-of-work" capacity ever developed for shade tree work. It is a design that provides a *controlled air pattern*, all the way to the top of the tallest trees. This means adequate coverage, as well as more efficient use of your chemicals. It means versatility, because the Rotomist pivots 110° vertically, rotates through 360° horizontally. Which means you can put your spray material—either dilute or concentrate—anywhere you want it. Up in trees. Over an embankment. Down, to windrow leaves. And, of course, John Bean makes many Rotomist models to match your requirements. They all mean business.

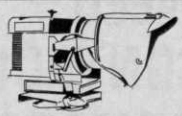


ROTOMIST available in a wide range of capacities.



ROYALIER SKIDMOUNTED delivers 20 gpm at 400 psi

MODEL 1010 TURFKEEPER has flotation tires for golf course use.



ROTOCAST broadcast air sprayer effectively handles all weed-killing programs.

Spray control is straight-through air

fmc CORPORATION®

POWER SPRAYING EQUIPMENT

JOHN BEAN

DIVISION

Lansing, Mich. – Orlando, Fla. – San Jose, Calif.

For More Details Circle (126) on Reply Card

FOR POSITIVE WEED CONTROL **TRIMEC®** TURF HERBICIDE MAKES THE DIFFERENCE!

Now you can have positive control of hard-to-kill weeds in cool as well as warm temperatures on a variety of 2,4-D resistant weeds.

Trimec turf herbicide is a patented combination of herbicides that display "synergism" and controls hard-to-kill weeds at lower rates than normally needed with the individual herbicides you're now using.

Gordon's Fairway Broadleaf Herbicide is in a class by itself. It contains 2,4-D, MCPP and Dicamba in a patented formulation which controls virtually all broadleaf weed species, while the individual herbicide components do not. It is the patented "synergism" of the formulation that makes the difference.

Call 913/342-8780 today, or write Gordon's about new Trimec Fairway Broadleaf Herbicide and other Gordon turf care products.

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TURF HERBICIDE
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LETTERS TO THE EDITOR

Insect and Disease — Not the Same!

I call to your attention a serious error in the December issue. On page 16, a paragraph states: "Diseases ranking after Dutch Elm Disease were cottony maple scale, maple decline, verticillium wilt, canker stain, oak leaf skeletonizer, fire blight, oak kernels, European elm scale and oak chlorosis." I do not argue the importance of these problems, but cottony maple scale, oak leaf skeletonizer and European elm scale are all serious insect problems! I do not know the term "oak kernels," and this may refer to some of the many common insect galls that are caused by insect attacks. I suggest some editing by experts is in order.— HUGH E. THOMPSON, associate professor, Kansas State University.

* * *

I am writing in regard to a very serious error in the article entitled "Municipal Arborists Survey Reveals More Funds for Tree Care" in the December issue. Cottony maple scale, oak leaf skeletonizer and European elm scale are insects and not diseases. Oak kernels, probably referring to oak kermes, is also an insect. —J. C. CARTER, head, Section of Botany and plant Pathology, Illinois Natural History Survey.

EDITOR'S NOTE: Sorry about that. Two things happened. In retyping, a couple of words were left out. The paragraph should have read: "Diseases (and insects) ranking after ..." And our typesetter changed kermes to kernels. We shall enter appropriate marks in the editor's and typesetter's grade books!

Early Success for Minnesotans

We would like to thank you for the fine support we have been receiving from your publication. Since the article in your November issue on the formation of the Minnesota Landscape Maintenance Association, we have been getting mail from all over the country inquiring about our association and offering us assistance and support.

Our membership of 40 consists of almost all the major maintenance firms. Contrary to our expectations, it is the larger firms and not the smaller ones who are coming into the group. We had felt it would be the smaller firms who would have the most to gain.

Our initial fee has been set at $15 and the yearly dues, $12. Group insurance is being investigated. We also have begun work on a booklet for public distribution consisting of lawn and gardens tips. — GEORGE LILLI, MLMA president, St. Paul, Minn.

MINNESOTA LANDSCAPE MAINTENANCE ASSOCIATION

No Faith in Beetle Attractant

I would like to comment on a Page 34 report in your November issue relative to the U.S. Forest Service scientists finding a substance that may be produced artificially to attract the elm bark beetles that spread Dutch Elm Disease. This sort of thing is far from being new, and even if they did find something that attracted the vector beetles, it is unlikely it would be effective enough to have much, if any, impact on the spread of Dutch elm disease.

As of this date, the use of DDT and other hard pesticides are known to have the ability of preventing the elm beetles from feeding on healthy trees, and in my opinion is the only hope we have of saving any of the American elm trees. — WILLIAM D. BUCHANAN, entomologist, Brigham Young University, Provo, Utah.

Editorial Enjoyed

Just a note to let you know how much I enjoyed your excellent editorial in the November issue. — PAUL M. VOYKIN, superintendent, Briarwood Country Club, Deerfield, Ill.

Commends "Laser Attack"

I was glad to see our work "Laser Attack on Aquatic Weeds" so skillfully reported. From telephoned information, someone did a superb job of writing. The information is accurate and well stated. — RICHARD COUCH, chairman, biology department, Athens College, Athens, Ala.

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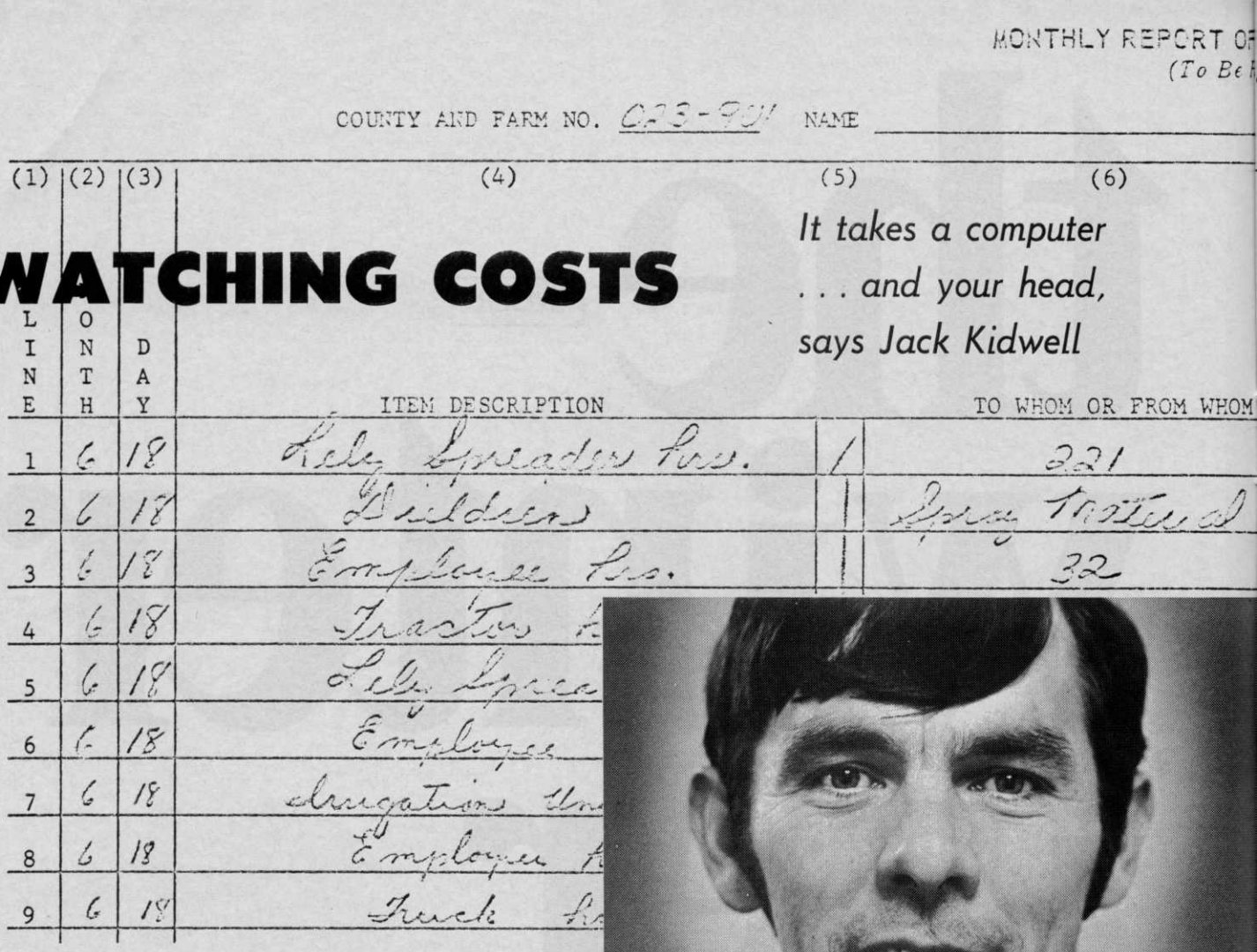


WATCHING COSTS

It takes a computer . . . and your head, says Jack Kidwell

JACK KIDWELL is a sod grower of the future . . . right now! He is applying principles and practices many turf specialists feel may be required of sod growers generally within the decade.

Stack up the scope of your operation against that of Kidwell Turf Farms, Culpeper, Va.:

INTEGRATED SERVICE — Sod production, delivery, and installation; landscape design, construction and maintenance assistance; retail lawn and garden center, supplying both nursery stock and products and equipment.

COMPUTERIZED ACCOUNTING, to include periodic analysis of profitability of the various segments of operations.

MULTI-APPROACH MARKET PROMOTION, using radio, newspaper and magazine advertising; direct mail brochures; customer relations literature; personal letter writing; sales representatives; and standardized and published pricing.

PROFESSIONAL ASSOCIATION MEMBERSHIP pertinent to each major segment of the business, plus a close working relationship with the area land-grant universities.

CATEGORIZED WORK FORCE, specially trained for certain jobs.

Kidwell Turf Farms, 450 acres, part of J. L. Kidwell Landscape Corporation, is Virginia's largest supplier of cultivated sod. In 1969, Kidwell Turf harvested and delivered an average of 2,050 sq. yds. of turf per day (6-day week) during the season, Apr. 1 to Dec. 1.

A Decade of Growth

All this growth came in the past 10 years, since 1959, when Jack Kidwell bought a sod cutter on credit to engaged in the pasture sod business.

Of all the factors contributing to the success he has achieved, three stand out: a continuing goal to produce a better product; a relentless and aggressive desire to increase his professional knowledge; and an unwavering objective to operate on sound business principles.

While the pasture sod business was satisfying his reason for quitting as a farm supervisor ("Because I had a family to feed"), there were problems. Pasture sod was hard to handle and, basically, it was a poor product. He continued offering it until 1965; in the meantime watching for the chance to grow his own sod and for related business opportunities.

One was the opening in 1962 of the Green Thumb Garden Center, the first of its kind in Culpeper (about 75 miles southwest of Washington, D.C.). In 1964, the Center's name was changed to the J. L. Kidwell Landscape Corporation.

"This year, we decided to handle Toro and Ryan equipment and to carry a supply of parts," said Kidwell. "We had several reasons, and the move has resulted in some fantastic things.

"With the nearest outlets in Washington, D.C., and Richmond, we needed a closer source for our own operations. But we also put in the service for the pasture sod growers in the area."

Kidwell hopes that when pasture sod growers come in for machinery or parts, they will become better acquainted with cultivated turf and will eventually switch to it. And he hopes improved communications

FARM BUSINESS TRANSACTIONS
etained by Farmer)

AEc - FM 1
PAGE NO. 37
MONTH [illegible]

ADDRESS _____ COUNTY Culpeper

	(7) QUANTITY		(8)	(9)		(10) TRANSACTION CODES (a)	(b)	(c)	(11) ENTERPRISE (a)	(b)	(12) FURTHER IDENTIFICATION (a)	(b)	(c)
	No. Hd.	Hrs., Bu., Lbs., Tons, Doz., Gals.	Unit Price	TOTAL DOLLAR AMOUNT		Trans. Type (See* Below)	Trans. Class	Trans. Detail	Code	Lot No. (Lvstk. or Crop)	Worker No	Grade-Test	Field, Machine, Lvstk. or Bldg. No.
		3.0 hrs.		$		29	529	081	057	009			221
		300 lbs.	.35	105	00	29	132	081	057	009			
		2.5 hrs.	165	41	25	29	001	081	057	005	32		
		2.5 hrs											
		2.5 hrs											
		3.0 hrs.	3.00	9	0								

A computer farm management service provided by Virginia Polytechnic Institute has been adapted to the Kidwell turf operations. Every employee and piece of equipment is assigned a number. Daily field records are kept on hours worked and on what job. Field reports are posted on the monthly report, a portion of which is shown above. VPI uses this input data to compute costs. Printouts are made quarterly.

will mean better cooperation on matters of mutual benefit.

The real beginning of Kidwell Turf came in 1965 with the purchase of 450 acres along famed Rappahannock River in Fauquier County. Some 200 acres already was established in bluegrass sod.

Of course, that didn't mean he was immediately in business. Buying the land was one financial exercise; the real test coming, however, "in estimating my capital outlay for the next two years and then taking it to a lending institution."

University-Industry Cooperation

About the next thing Kidwell did was to visit the Extension and Agronomy departments at Virginia Polytechnic Institute. The relationship that developed caused Kidwell to state later that "VPI practically fostered Kidwell Turf Farms!"

And it could be added that Kidwell Turf practically fostered the cultivated turf industry in the State of Virginia.

The Virginia Cultivated Turfgrass

Association was inaugurated in 1966, with Kidwell a charter member and a two-term president. He helped write the guideline specifications for soil preparation and sodding, an industry first, adopted by the states of Virginia and Maryland. He helped bring about the recognition of a two-state "Certified Turfgrass Sod," labeled, and enforced by the states' departments of agriculture.

"The message that continues to be difficult to get across," Kidwell said, "is that these things were achieved for the benefit of all sod growers in the area and not just for a handful of the biggest ones."

Active in the American Sod Producers Association since its beginning, Kidwell currently is working on national guidelines for soil preparation and sodding that would have ASPA backing. He is the present ASPA treasurer.

Kidwell also is active in the American Landscape Contractors Association. His interest in turf took him in 1969 to Harrogate, England, to an international meeting that resulted in the formation of the International Turfgrass Society.

Twice, the Virginia Cultivated Turfgrass Association annual tours have visited Kidwell Turf, in 1968 and 1969.

Many Have Tred Kidwell Turf

Literally hundreds of thousands of people from all across the nation and around the world have walked on Kidwell turf, for it has been used around the John F. Kennedy gravesite during a five-year contract with Arlington National Cemetery. Kidwell Turf also graces the Governor's Mansion and the City Hall in Richmond, numerous colleges and universities and housing projects.

So well known is Kidwell turf that some construction specifications actually specify, concerning sod quality, "as can be obtained from Kidwell Turf, Culpeper, Va."

Market Promotion

Multi-functional promotion spread the word, much of it created by Chuck Rose, who served as advertising manager until this summer when he joined the staff of a Culpeper bank. The word is carried personally by Kidwell himself and by sales manager Powell O'Bannon, who travels up to 80,000 miles per year.

"We're going to use our airplane more in sales effort this coming year," Kidwell said.

As examples of how Kidwell Turf gets business: A subscription to Dodge Reports keeps the company posted on construction activity. Letters are then written to the architect, the project owner/developer, to the bidders, and low bidder.

"But of primary importance is the followup by a sales representative," Kidwell stressed.

It is in this communication that Kidwell can promise the quality and fulfill the specifications he helped bring about. From the experience of contract cancellations in earlier years, Kidwell had concluded that there was a "definite need for a better product and for specifications for the product. Many times when we bid, the product was good, but because of the lack of proper specifications, the contract called for a delivery time when the product was not so good."

With the letters to potential customers, Kidwell could send a portfolio of information — a history of Kidwell Turf, how Kidwell cultivated turf is grown, turf mixtures offered, the guideline specifications for sod, information listing the advantages of sodding over seeding, instructions for taking care of a newly sodded lawn, delivery costs, and price lists.

Advertising is used in area magazines, newspapers and on radio.

Product Mixtures Sold

Only mixtures, four of them, are offered. They are: No. 1—50% Merion and 50% South Dakota Certified; No. 2—60% Merion and 40% S.D. Certified; No. 3—45% Merion, 45% S.D. Certified and 10% Pennlawn Fescue; and No. 4—90% K-31 Tall Fescue, 5% Merion, and 5% S.D. Certified.

"We're changing this year to offering a 30% Merion, 30% Fylking, 30% South Dakota Certified, and 10% Pennlawn fescue. Eventually, this will replace the first three mixtures."

Mrs. Christine Estep mans the computer corner, compiling the records that go to VPI. She also handles ordering, billing, secretarial work, and bookkeeping.

Retail prices range from 80¢ for fewer than 100 sq. yds. to 68¢ for orders 10,000 and over. Shipping charges are listed by five zones radiating out from Culpeper and run from $60 to $180.

"About 75% of production was installed by us in 1969, said Kidwell. At mid-point of 1970, the figure had dropped to about 50%.

Mechanization and Training

Kidwell believes in a work force in which "each man is trained to do

These are samples of the market promotion and customer information literature.

a particular job . . . and trained well." He has a farm production crew and a harvest crew. Ralph W. Firebaugh is farm manager; Bill Estep is field superintendent in charge of harvesting and delivery. The normal farm work force of eight men swells to 30 in peak season, including all related services.

With the help of mechanization, turf production in the decade of the 60s quadrupled while the labor force barely doubled. The eight men were easily growing, harvesting and delivering 2,000 sq. yds. of sod per day to most localities within Virginia, Maryland, and Washington, D.C.

Yet by 1968, despite market promotion, consumer education, staff organization and specialized training, mechanization, development of a high-quality product, Kidwell could see that "our costs were eating us up. Either we had to get more volume, or cut costs."

He again turned to VPI for management advice, working with John Shoulders, Extension turf specialist, and Robert Reynolds, agricultural economist.

Computer Management

Together they adapted the University's computer farm management program to a turf farm.

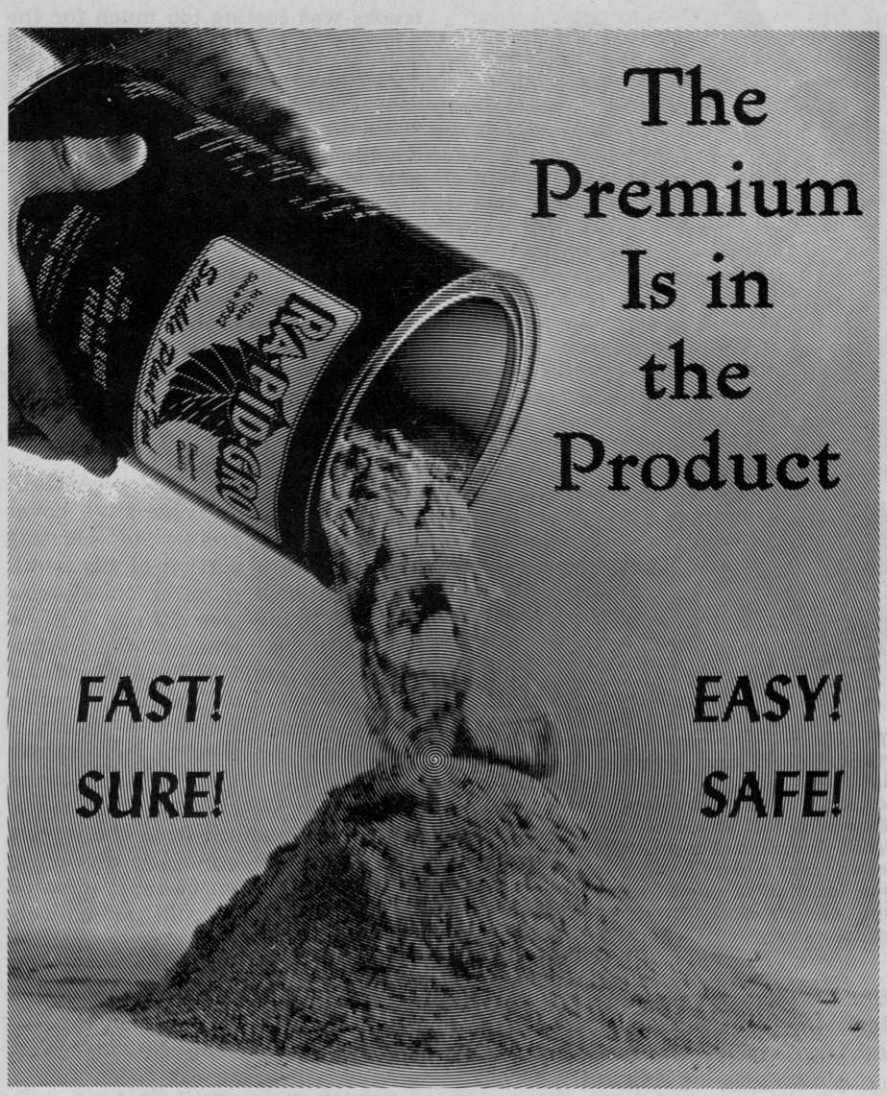
"Our purpose was to pinpoint our costs," explained Kidwell. "We wanted to find out the cost of each piece of equipment, then decide if we still needed it to get the job done."

A code number was assigned to each person and piece of equipment and detailed record-keeping began on Jan. 1, 1969. The diligence of employees responsible for keeping records and the extraordinary ability of secretary-treasurer, Mrs. Christine Estep in compiling and reporting the information has provided Kidwell with the analytic breakdown of costs he was after.

"Our program is designed to tell us our costs per yard of sod in four major areas," Kidwell explained, "production, harvest, transportation, and installation.

"What I like about it is that we can evaluate any one item independently." But Kidwell hastens to add that the computer doesn't have the last say one whether a piece of equipment or employee stays or goes. "If the computer says the cost is high, then you have to evaluate its need. Your costs might be higher without it." In other words—use the computer, but don't quit using your head.

So precise has been the informa-



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More and more commercial growers and groundskeepers depend on RA-PID-GRO. You get exceptionally reliable quality, good results and performance under a wide range of conditions on all kinds of plant material. Save time! Save money! For foliar and root feeding; also combine with pest controls. Dissolve 1 lb. in 30 gal. water. Fast-acting, nonburning. Completely soluble; high analysis 23-19-17.

RA-PID-GRO

Sold only through local distributors and dealers.

There's a well-beaten path between Kidwell Turf and Virginia Polytechnic Institute. It's traveled both ways. Above, John Shoulders, center, VPI Extension turf specialist, is at the farm. With Ralph Firebaugh, left, farm manager, and Kidwell, they are checking the location of some research plots on the use of cover crops planted with grass seed.

tion that on one occasion the quarterly breakout reflected the cost of miring a tractor in a muddy field.

"A man plowing a field triples our soil preparation costs and we have records to prove it," said Kidwell. "So we're trying to get away from plowing. We're using a chisel plow instead.

As an illustration of analyzing specific equipment costs, Kidwell reported that a recent readout confirmed that "one of our tandem trucks was costing too much for the payload it carried. It was rated a 2½-ton, but its gear ratio and engine weren't efficiently pulling a 40,000-lb. payload. We got rid of it. We're looking now for one capable of pulling 56,000 lbs."

How Kidwell Grows Turf

As we toured Kidwell Turf Farms before, during and after a cloudburst, the story of how Kidwell Turf is raised came out. Keep in mind its location in that difficult "transition zone" between cool-season and warm-season grasses, on rolling and occasional rocky terrain.

SOIL PREPARATION — According to amount of vegetative cover (he's in the process of clearing timber from a portion of his land), a conventional plow or chisel plow is used, wind permitting. With a chisel, it is cross-plowed. After plowing, a liquid 10-10-10 goes down at 1,000 lbs. per acre. Allowing enough time for weed seeds to germinate, the field is then disked, usually three times. A land leveler and rock picker are used if necessary. Rocks are removed from the top six inches and the ground is leveled so that "a car driven 50 mph across it in any direction would not indicate any bumps." Every five years, the farm is covered with granular dieldrin to eliminate the possibility of grub, or other soil insect, invasion. Lime is applied only when the pH falls below 6.0.

SEEDING — Begins about mid-August and continues through September. For bluegrasses, the rate is 1 lb. per thousand sq. ft. "We're interested in rhizome development, and the lighter rate is conducive to this," he explained. When seedlings are six months old, the first nitrogen goes down at the rate of ¾ lb. per 1,000 sq. ft. At 12 months, another pound per 1,000 sq. ft. is applied.

In October, Kidwell has been planting wheat on any open ground. "It's not meant to be a profit operation, but it can be," he said. The primary reason is to cover bare ground during the winter, reduce soil erosion, provide weed control, and act as a soil builder. The straw is plowed under after the grain is harvested in mid-June.

"In some experimental plots, we've tried sowing the seed with flax, sudangrass, oats and perennial rye, "Kidwell said. The hope is to establish a quick cover that will reduce weed competition and provide winter protection from desiccation.

"Flax planted at 10 lbs. per acre looks good," Kidwell reported, "and our December temperatures usually are cold enough to kill it."

Normally, grass fields are sprayed in September or October with a mixture of 2,4-D and Banvel-D at the rate of ¼-lb. of Banvel-D and 1½ lbs. of 2,4-D per acre in water.

When seedlings are about one inch tall, they are sprayed with liquid Parathion to kill aphids.

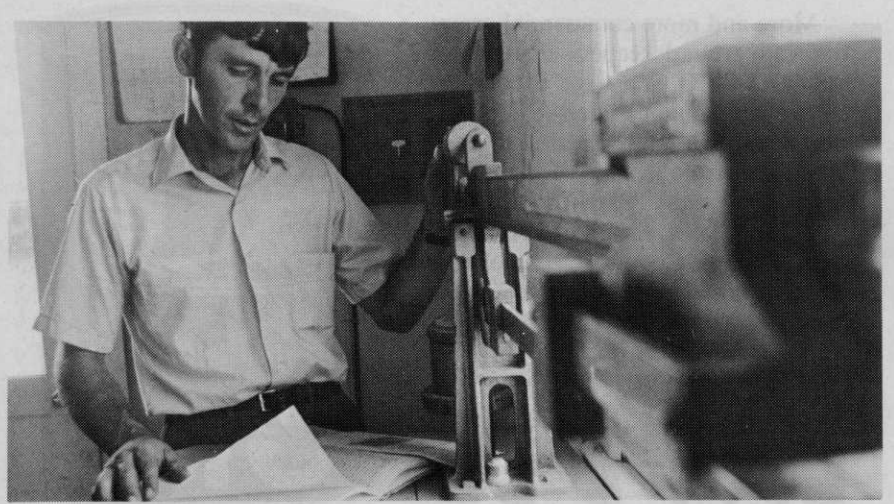
MOWING — Unless another experiment works out, Kidwell will continue to mow about 2½ to 3 inches height and about every three days during the growing season. In Virginia, that means each square foot of grass gets mowed about 65 times a season! On one field, the grass has been allowed to grow to five to six inches. It will be maintained at that height, then groomed to lower heights just before harvest. If the plan works, the number of mowings will be reduced drastically. Sweeping is done only if clippings build up or if the grass is to be harvested soon after mowing.

IRRIGATION—"We don't water for appearance," said Kidwell, "only for germination, during dry spells and just prior to lifting. We want the grass tough enough to withstand the transplant shock. If it's in a semi-dormant condition, we have less of a heating problem."

A portable field irrigation unit draws water from the Rappahannock River. It is distributed with a mile of trunk and lateral lines.

At the normal end of the day, Kidwell's understatement of the day had come early: "One of my worst problems is just finding the time to manage the business . . . while I still drive a truck occasionally, do a lot of selling, and attend meetings."

At the normal end of the day, he illustrated—climbing aboard a tractor-trailer rig to deliver a load of sod.



This scale has been almost worth its weight in gold, believes Kidwell. It provides an accurate record of sod shipped, and "we don't get any more fines for overloading," he added.

meeting dates

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

42nd Golf Course Superintendents Association of America International Turfgrass Conference and Show. Denver Hilton, Denver, Colo. Feb. 7-12.

Weed Science Society of America. Statler-Hilton Hotel, Dallas, Tex. Feb. 8-11.

Michigan Association of Landscape Architects annual meeting, Sadler Lounge, Pantlind Hotel, Grand Rapids. Feb. 9.

Michigan Association of Nurserymen 49th annual meeting, Pantlind Hotel, Grand Rapids. Feb. 9-11.

National Landscape Association, Admiral Semmes Hotel, Mobile, Ala. Feb. 14-17.

National Arborist Association, International Inn, Tampa, Fla. Feb. 14-18.

National Symposium on Park, Recreation and Environment Design, Sheraton O'Hare Motor Hotel near Chicago. Feb. 15-17.

Regional Lawn and Garden Retailers Day, Half-Way House, Darien, Conn. Feb. 18.

Penn State Turfgrass Conference, Keller Conference Center, Campus, Pennsylvania State University, University Park, Pa. Feb. 22-25.

Illinois Landscape Contractors Association winter seminar, O'Hare-Concord Motor Inn, Des Plaines. Feb. 25-26.

Midwest Regional Turf Conference, Purdue University, Lafayette, Ind. Mar. 1-3.

Ground Maintenance Conference, University of Connecticut and Southern Connecticut Groundskeepers' Association, Waverly Inn, Cheshire, Conn. Mar. 3.

Southern Shade Tree Conference, Durham Hotel and Motel, Durham, N.C. Mar. 7-10.

Iowa Golf Course Superintendents Association, Hotel Kirkwood, Des Moines. Mar. 8-10.

Michigan Association of Landscape Architects management Conference, Holiday Inn South, East Lansing. Mar. 11-12.

Western Society of Weed Science, Denver Hilton Hotel, Denver, Colo. Mar. 16-18.

Williamsburg Garden Silver Anniversary Symposium, Williamsburg, Va. Mar. 21-26.

For weed killing, pest control, chemical test plots, fire fighting.

The 'Dragon' Agricultural Sprayer

Here's a five gallon, easy action, continuous flow, back pack unit of stainless steel. For industrial use, gardens, estates, experimental plots. Stainless steel agitator moves with compression chamber, constantly mixing ingredients. Ventilated back rest. Hinged cap—no jamming or cross threading. Jets a stream more than 30 feet. Doubles as a mobile fire fighter.

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Three-nozzle boom assembly shown. Optional at extra cost.

Model 180 with standard 20" extension tube for reaching out and under otherwise inaccessible areas.

'COPTER SEEDING A GOLF COURSE

An Aerial Patrols Bell G-2-A seeds a fairway of Country Club Village, near Canton, Ohio.

GOLF COURSE SEEDING used to be a "make hay while the sun shines" proposition for many golf course contractors. Iberia Earth Moving in cooperation with Aerial Patrols recently found a way to get around many of the weather problems associated with golf course seeding.

Last July, two fairways of a new 18-hole championship golf course at Country Club Village near Canton, Ohio, were seeded by an Aerial Patrols helicopter in about 1½ working hours. Howard Williams, the contract supervisor, said the entire course could have been seeded by helicopter in about two working days. A comparable project using standard seeding techniques normally would have taken 12 work days, even with good weather. And "good weather" was in short supply this past season, Williams reports. Not one full work week was completed between the first of the year and seeding time without some "down time" due to bad weather conditions.

Even though seed bed preparation must be done under favorable conditions, helicopter seeding can be done when soil surfaces are too wet for conventional seeding methods.

The helicopter seeding project was directed by Terry Ewing, owner of Aerial Patrols. A Bell G-2-A helicopter carrying two seed tanks with a total capacity of 960 pounds was used to spread a slurry of water and seed. The slurry was mixed in a truck tank (900 pounds water to 60 pounds seed ratio) and then pumped into the helicopter seeding hoppers.

The actual fairway seeding rate was 60 pounds per acre. To assure even seed distribution, the helicopter seeded at a 15-pound-per-acre rate, thus requiring four passes for each fairway acre. The wind currents produced by the helicopter blades served a useful function, forcing the seed slurry into the ground in a uniform pattern. The helicopter traveled at about 35 mph while broadcasting the seed slurry. After seeding, the fairways were covered with a mulch material to retain soil moisture and assure maximum germination.

Lewis Busler, Iberia president, has high hopes for this new seeding technique. Plans are to use it in a much larger scale for some of the new golf course seeding projects now in the rough grading stages.

Not only is golf course seeding by helicopter a new technique but the seed mixtures used for this course also represent a departure from what have traditionally been accepted as the "best" turf for championship quality fairways . . . namely Astoria and Highland Bentgrass. The new Country Club Vil-

Jack Mackenzie, Aerial Patrol pilot, is getting instructions from Lewis Busler, president of Iberia Earthmoving Service, golf course contractor. Iberia construction superintendent Howard Williams has paused to take a look before dumping seed into the tank on the pickup truck. The seed was mixed with water, then pumped into the helicopter's tanks.

HERCULES

Agricultural Chemicals
TURF NOTES

NUMBER 102-1

NITROFORM® nourishes all types of turf...

Check Table I to see how much nitrogen your turf needs. The most common types of turfgrass are listed in Table I, page 2, along with pounds of nitrogen required per year to keep them in top-quality condition. Nitrogen must be continually available to maintain healthy turf, and more nitrogen is required than any other element. Thus, the choice of nitrogen source can be important—not only in maintaining turf quality but for maintenance efficiency.

Nitroform® turf food, 38% nitrogen, has found wide acceptance for use on golf courses, athletic fields, and other professionally managed recreation areas. It has slow release; is nonburning, nonleaching, and odorless; and builds a nitrogen reserve.

One application of Nitroform will last up to five times longer than conventional fertilizers. Thus, fewer applications are required than with conventional fertilizers, and labor is freed for other important maintenance jobs. Fewer bags of Nitroform are required for equivalent nitrogen, so savings are also realized in storage space and handling.

TYPES OF NITROFORM TURF FOOD

Nitroform is available in two easy-to-use types. Blue Chip®, the granular form, is applied by mechanical spreaders. Powder Blue*—a fine, water-insoluble powder—is suspended in water for application by sprayer, proportioner, or siphon. Powder Blue is especially recommended for greens and close-knit turf.

Nitroform is also an excellent source of nitrogen for mixed fertilizers. The Blue Chip label, or the word Nitroform, on the bag assures you that Nitroform is at least 50% of the total nitrogen source.

WHEN TO APPLY NITROFORM

Split applications of Nitroform are usually recommended annually, with the heaviest application at the time of the most important growth cycle of the turfgrass. For putting greens and similar high-maintenance turf, two to four treatments a season may be necessary to maintain top-quality appearance—depending on the grass, the climate, and the weather conditions.

For the specific Nitroform program recommended for your climate, refer to the edition of Turf Notes Number 101-1 for your section of the country. Use the reply postcard provided to request a copy.

*Hercules Trademark

USE THIS COUPON to request the Nitroform program recommended for your area and the booklet that helps you compare the costs of organic nitrogen products.

COMPLETE COUPON AND MAIL · NO POSTAGE REQUIRED

☐ Please send Turf Notes Number 101-1 giving the Nitroform program for my area.

☐ Also, please send the booklet that shows how to compare the costs of Nitroform and conventional organics.

(PLEASE TYPE OR PRINT)

Name _____

Title _____

Company _____

Address _____

_____

ZIP

SUGGESTIONS FOR TURF MAINTENANCE

The pH of the soil should be maintained between 6.0 and 7.0. Keep soil well aerated. Irrigate as necessary. Soil tests should be made periodically to determine if other fertilizer ingredients are needed to provide balanced nutrition.

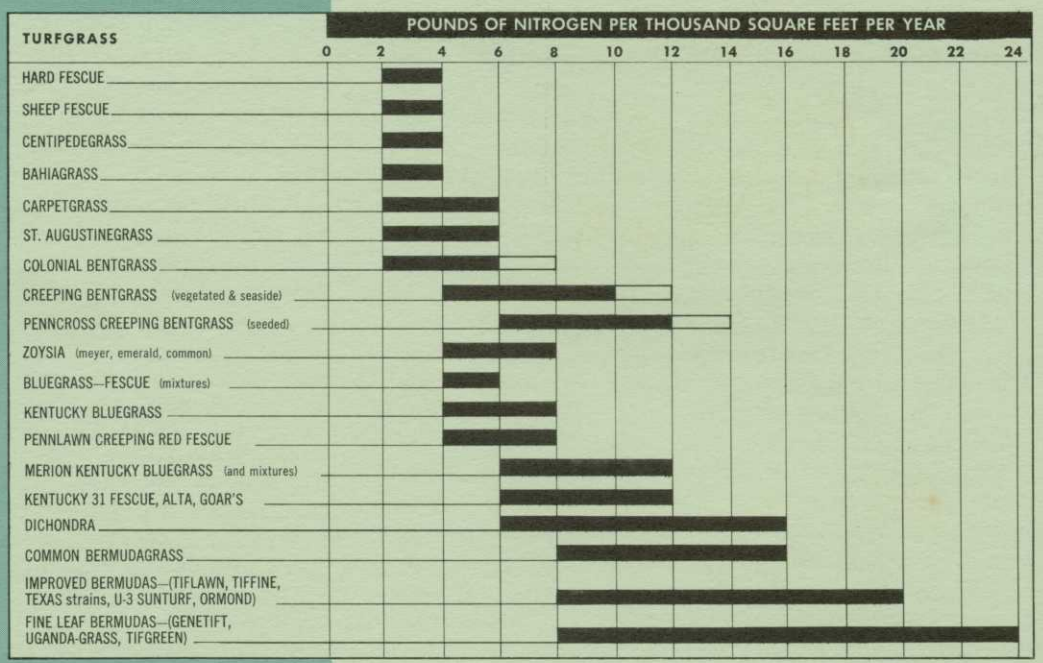
The use of Nitroform promotes dense turf of excellent color without excessive clippings, resulting in less disease, less weed infestation, and a steady, uniform growth.

HOW TO DETERMINE EQUIVALENT NITROFORM

To determine the pounds of Nitroform that will be required to supply annual nitrogen requirements, multiply the pounds of nitrogen needed, as given in Table I, by the factor 2.6.

TABLE I

SUGGESTED RANGE OF ANNUAL NITROGEN FEEDING FOR MAJOR TURFGRASSES



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STH 71-1

Seeding by helicopter accomplished the same amount of work that would have taken six times longer by conventional seeding methods.

lage fairways will consist of a mixture of several new improved turfgrass varieties. Northrup, King & Co. supplied a fairway blend of 25% Prato Kentucky Bluegrass, 25% Fylking Kentucky Bluegrass, 12½% Holfior Colonial Bentgrass and 37½% Pelo Perennial narrow leaved Ryegrass. This particular mixture of turfgrass varieties was selected because it can withstand the short mowing heights demanded on championship fairways. It will also require far less maintenance than the traditional fairway grasses. This kind of blend reduces the cost involved for irrigation and mowing and reduces the danger of serious disease problems.

Use of Holfior Colonial Bentgrass is interesting in that it is a "non-creeping" bentgrass. It is instead an upright variety that does not have creeping qualities and provides an excellent fairway surface from not only a golf course superintendent's standpoint but also for even the most critical golfer. Because of Holfior's upright growth habit, leaf texture and color, it is compatible with Prato, Fylking and Pelo, thus creating a uniform lush turf of a deep rich green color. Northrup King also supplied a 50-50 blend of Holfior and Pelo for tees and green aprons. The Pelo Ryegrass was used because it will establish fast, but with the short mowing heights it will receive on tees, it will eventually fade out leaving a low maintenance, durable tee box of Holfior Colonial Bentgrass.

Edmund Ault, the course architect of Bethesda, Md., feels this new layout will be most challenging with its 11 lakes, 60 sand traps and 7,300-yard par 72 rating. The new course should also be an excellent layout for spectators, as the 18th green will have terraced embankments for tournament viewing.

The new Country Club Village course will be irrigated by an electric-hydraulic Toro Moist-A-Matic irrigation system. All irrigation panels are centralized and can be controlled from one master board. And if all this isn't enough, the new Country Club Village club house and pro shop are part of a 12-story high rise apartment complex complete with what else . . . a helicopter landing pad.

Mulch was spread after seeding to retain soil moisture and assure maximum germination.

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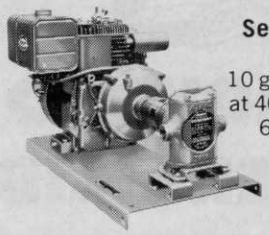

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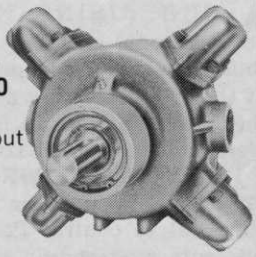

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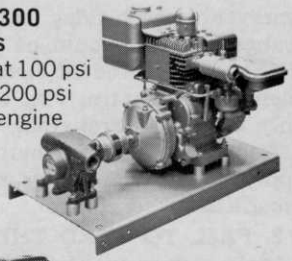

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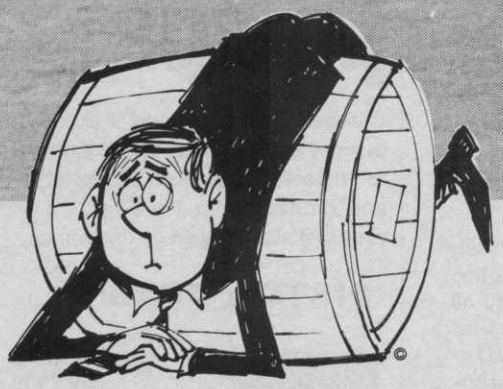


No mistake here. Louis Miller, superintendent of the Louisville Country Club, takes satisfaction in his Penncross fairways free of Poa annua.

By CECIL F. KERR
Chipco Turf Products Manager
Rhodia Inc., Chipman Division

HOW TO FOUL UP A HERBICIDE PROGRAM

A SURPRISING NUMBER of methods can be employed to foul up a herbicide program. Some of the most effective ones can assist the superintendent in losing his job. Here are 10 you can risk trying:

1. SELECT THE WRONG CHEMICAL: It is possible to select a chemical to control *Poa annua* that prevents overseeding as long as 16 weeks. Just imagine the superintendent's position if the fairways were 95% *Poa annua!* Many preemergence herbicides only control crabgrass. This would be disturbing if the superintendent had used the chemical to control *Poa annua* and only controlled crabgrass.

Another sure-fire method is to apply a chemical under shrubs for broadleaf weed control.

2. FAIL TO READ THE LABEL: A golf course in Michigan applied Simazine thinking the Simazine was Chlordane. Simazine is an excellent chemical for killing all vegetation. It cost this club $50,000 to rebuild nine greens. Many industrial soil sterilants will control grass and weeds for two to three years. The worker who applied this chemical never learned how to read!

3. SELECT THE WRONG FORMULATION: An excellent method of killing desirable shrubbery is to apply a butyl ester formulation of 2,4-D. The high volatility of this product insures effective kill of shrubs.

4. FAIL TO CALIBRATE EQUIPMENT: Many individuals have successfully removed desired grass by not calibrating equipment. There are several ways of fouling up application rates. Use the wrong nozzle. Using a five-gallon-per-acre nozzle is effective. Varying the speed may bring startling results. The incorrect boom height has caused unusual patterns. Double applications or overlapping creates an interesting pattern, but not always appreciated.

Mowing the greens immediately after applying MCPP may result in no control of clover.

5. DO NOT COMMUNICATE WITH GREENS COMMITTEE MEMBERS: One of the surest methods of creating an unfavorable climate for the superintendent is to initiate an extensive *Poa annua* removal program without discussing the program with the greens committee.

The superintendent should warn his members that under severe weather stress, *Poa annua* can be severely weakened. This would alleviate any surprise that might result from less-than-desirable playing conditions.

6. APPLY HERBICIDES UNDER STRESS CONDITIONS: An application of silvex, 2,4-D, or PMA 10 at 95° temperature, usually effectively removes grass in addition to the desired weed control. This condition may be even worse if disease is present. Golf carts also will help speed up the removal process.

7. FOLLOW ONLY A PORTION OF RECOMMENDED PROGRAM: Many superintendents have attempted to remove *Poa annua* with tri-calcium arsenate without eliminating phosphorus in the fertilizer program. Others have overseeded onto a heavy thatch without getting seed against soil. Some superintendents have failed to drain the low pockets. Still others have adequate tile but poor surface drainage. Any of the above factors will foul up a gradual *Poa annua* removal program.

8. FAIL TO CLEAN OUT A SPRAY TANK: Herbicides such as Paraquat, 2,4-D and sodium arsenite must be cleaned out of the spray tank; especially a wooden tank. These residues left in the tank may effectively remove bentgrass.

9. NO FOLLOW-UP: Several thousand dollars can be wasted if a superintendent controls *Poa annua* with tri-calcium arsenate and fails to apply an annual maintenance follow-up application.

10. IMPROPERLY HANDLE AND STORE HERBICIDES: Superintendents and workers can create problems moving leaking containers. Herbicides spilled on clothing may be most irritating to areas of the skin.

Failure to wear protective clothing and masks when handling toxic materials may cause absorption through the skin.

If a worker should swallow a herbicide it could confuse the situation if no label was available for the physician to determine the chemical ingested.

Poison pesticides stored in a food locker in the club house could possibly cause some of the club members to be rather ill.

The golf course superintendent

Bill Haven, superintendent of the Greenbrier, shows excellent control of Poa annua with tri-calcium arsenate to Dick Whiteman of Rhodia, Inc., Chipman Div., and Bill Keehne of Higgs and Young, Inc. At right is Oscar Miles, Olympia Fields, Chicago, and Roy Scherdin of the George A. Davis Co., analyzing a Poa annua treatment.

today must be professionally trained in order to manage a herbicide program. All factors must be kept in balance. There can be no weak link.

Manufacturing firms, universities and experienced superintendents should be contacted before selecting the right chemical for your problem. Oscar Miles of Olympia Fields, Chicago, spent months of study and analysis of his own demonstration plots before deciding to treat with tri-calcium arsenate for gradual *Poa annua* removal.

Manufacturing firms spend between $2 and $15 million to secure approval of a label from USDA. It is, therefore, vital that the label be read, studied, and directions followed explicitly.

The amine formulation of 2,4-D should be used around shrubs and trees. This eliminates the volatility problem from gas vapors.

One of the most important approved practices is to correctly calibrate equipment. Manufacturers and universities supply methods of calibrating equipment for every existing chemical. Spray nozzle and accessory equipment companies supply catalogs with tip numbers that have computed the gallons per acre. Gallons per acre may be calculated from the following formula:

5.940 x Gallons per minutes

Miles per hour x width (nozzle spacing) in inches.

Spray equipment for applying herbicides on golf courses should apply from 20 to 40 gallons per acre of solution at 30 pounds per square inch and a tractor speed of 4 miles per hour.

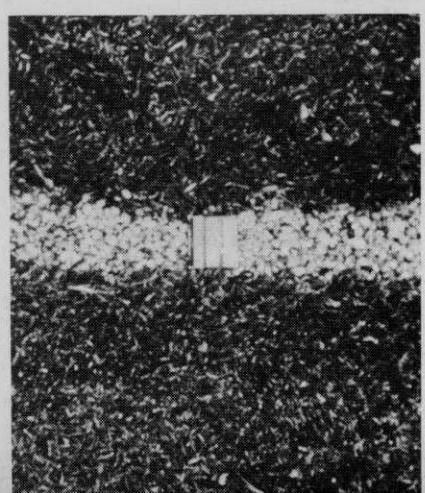
Plan your herbicide program with your greens committee and members. They should know exactly what to expect when an extensive fairway renovation program is initiated.

Bill Haven of Greenbrier prepared an attractive card for presentation to each golfer with each score card. This card explained why *Poa* fails, and warned that playing conditions may be less than ideal while removing a second-class, "failure grass" *Poa annua*. Haven emphasized the final objective was the creation of an ideal setting for future Greenbrier golfing enjoyment.

Carl G. Hopphan, superintendent of Aurora Country Club called a general meeting of the entire membership to acquaint them with his program plans for removing *Poa annua* with tri-calcium arsenate. He painted an extremely black picture of how their fairways would look before success was achieved. Carl Hopphan now has in excess of 90% bluegrass, and satisfied golfers.

Timing is important in any herbicide program. Herbicides control weeds more effectively when the weeds are young and rapidly growing. *Poa annua's* sensitivity to tri-calcium arsenate is favored by short days, cloudy days, with low light intensity and cool weather. Never apply herbicides when the temperature is extremely high.

A book of matches shows relative size of slit trench for drainage used by Supt. Ted Woehrle at Beverly Country Club.



Complete the entire program. Louis Miller of Louisville Country Club has one of the nation's outstanding *Poa annua* removal fairway programs. This wasn't true until he completed an extensive drainage program. He kept some water soluble phosphate available as a check valve in case the *Poa* started dying too rapidly. Ted Woehrle followed this same approved practice while at Beverly Country Club in Chicago. The control level must be maintained. James W. Brandt, Danville Country Club, maintains control level with 100 lbs. per acre of tri-calcium arsenate applied alternate years for crabgrass.

Safe handling and proper storing of pesticides is essential. We must do an outstanding job of protecting wildlife and our streams or herbicides will not be available for us to use. Our economy would be in sad condition if turf experts and agriculturists were forbidden to use herbicides. We, therefore, cannot afford to foul up our herbicide programs.

Golf course superintendents should attend herbicide clinics, improve their equipment, train their workers and strive to become certified applicators.

Today's golfers are demanding fine turf. Golf course superintendents must fulfill the desires of their members. Superintendents are faced with a gigantic challenge of providing an ideal setting for the golfers enjoyment.

Wisconsinite Among the Palms Says

LET'S PUT THE CARE BACK INTO TREE CARE

By LOU SPEER

William (Badger Bill) Johnson moved his tree care business from the cold of Wisconsin to the sunny and warm palm-lined streets of Phoenix, Ariz.

A TRUE ARBORIST has his client's welfare at heart." Thus Bill Johnson sums up the success behind his Phoenix-based Badger Tree Service.

The brown-eyed, sun-bronzed, former Wisconsinite is now at the height of his zesty 25-year career in arboriculture. He is a champion of the artistic concept of tree trimming, an adventurer among new ideas, and a kicker of tradition.

To him, tree moving should be done as beautifully as possible. This means no topping, no "chopping" back. The arborist who isn't willing to seek out the experts and experiment a little isn't worth his saw. Each tree trimmer should consider the pruners in his hand akin to the paint brush in an artist's, trimming neatly and purposefully, leaving the tree in lacy character.

"I'm trying, perhaps, to impress the fact that an arborist, in the true sense of the word, **is** an artist," Johnson says, "or a doctor, or designer. When he goes to his clients' homes he helps them design their trees, and sees to it they remain in the best of health and are kept as pretty as is possible to do—with the help of God."

This, he states, is his primary objective in business. Parallel to it is his life's goal: To be of some good to those he serves, to feel worthwhile.

With his own ideals set so high, it is little wonder then, that "Badger Bill" as Johnson is often affectionately called, gets short-tempered when watching some tree service companies.

"Many seem to be in the business because it is the easiest thing they can do," he says bluntly. "But they don't know **why** they are doing it. They don't seem to care. They don't even take time to read a book to see how to do a good job. The only thing they think about is topping—whack, whack, **whack!**"

Of course, Johnson is the first to admit not everyone might possess this innate sense of tree artistry he seems to have. "But they can learn!" he says. "Beauty is beauty. It doesn't matter what part of the world you're in, a tree is a tree. Each has its own personality, its own characteristics. Good, basic pruning is the same the world over. If you're an arborist or a man who knows how to trim trees at all and have any artistic sense, you can tell right away how to trim a tree."

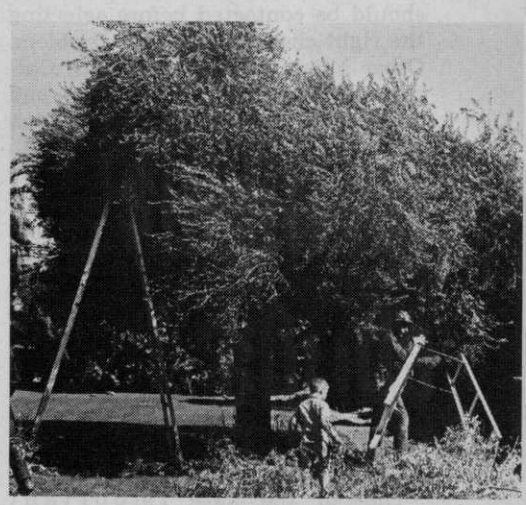
Badger Bill should know; he has been doing it long enough, and also training his own men to know what he is talking about.

In addition to proper trimming (topping is a bad word to Johnson), he stresses that good tree care includes up-to-date methods of cabling, bracing, surgical work, storm restoration, and spraying for insect and disease control.

"We have saved many trees," he says, "that have split asunder, yet haven't separated from the root system. We have pulled them together and "sewn" them with rods, so that today they are very beautiful with little, if any, sign of previous repair methods."

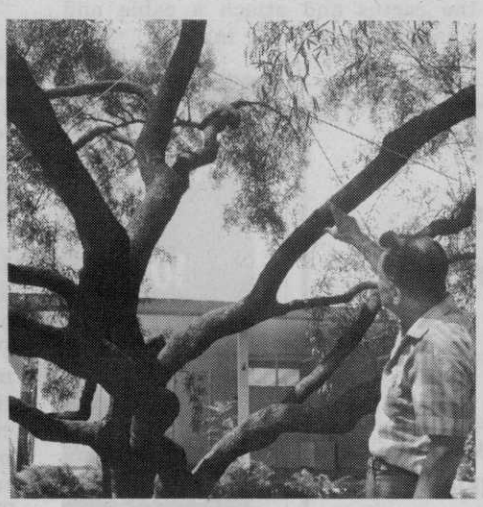
His passion-like persistence for quality service has led him to the successful extension of systemics to include silk oak trees, ash and citrus trees. Lowell True, Maricopa County Agricultural Department, credits Johnson with having been the first to suspect verticillium wilt might exist in Phoenix olive trees and to collect samples proving it.

Johnson's special niche in the arboriculture world has been arrived at the long way around. During his



He turned green blobs on a trunk into attractive olive trees, convincing Arizonans there was value in having a real arborist in town.

"They just chop them off and end up with a green blob," Johnson says of many homeowners' pruning, pointing to the maple leaf mulberry. Another mulberry exhibits Johnson's trimming artistry.



Trees with a great deal of lateral branching are strengthened with cables. Johnson treats all wounds with tree dressing. You'd be surprised how much native trees respond to good care," he says.

early years, he wanted to be a forest ranger. After eight years in the Marine Corps and two more learning to fly, though, he decided to stay on the commercial end of things. He spent four semesters in an Iowa landscape school. He didn't cotton to this angle as well as he thought he would. Immediately after graduation, he entered the tree profession by attaching himself to a line crew in Rockford, Illinois. Next, he joined an ex-Davey man in trimming trees.

"But he did so many things that seemed wrong," Badger Bill recalls. So Bill looked around. No arborist seemed to be doing ornamental work, as such. They were cutting deadwood out of trees and that seemed to be all. He chose to strike out on his own, and began developing what he considered the artistic way of trimming ornamental trees. As his proficiency grew, so did his business.

Through the years, however, one thing still bugged him: "Burr-r, I hate the cold." He disliked seeing his equipment bog down, laying his men off in November, and himself sitting idle all winter.

One day in 1959, as the snow drifted sill-deep to his office in Beloit, Wis. he hopped a jet to Phoenix. There, in the Valley of the Sun, he located his own particular kind of gold mine.

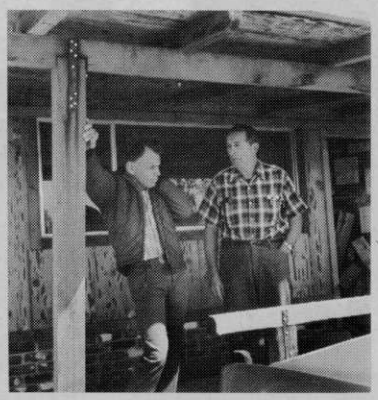
"Fantastic," he describes it. "From mountain to mountain you could see the word 'opportunity' To my amazement there were no arborists in Phoenix. No one knew what the Shade Tree Conference was. No one had heard of the National Arborist Association. No one seemed to know anything about arboriculture!"

He soon found, though, he had some ground work to do before he could stake his claim. Those leathery-cheeked Arizonians figured they had been doing pretty good so far. Who needed an arborist, what ever that was? Besides, they didn't trim olive trees; they didn't trim citrus trees; they didn't trim—

"Poppycock!" Bill interrupted. He flew home, brought back his family and part of his equipment, determined to prove himself.

The late Frank Wales, nurseryman, gave him his opportunity. He led Bill to a swarthy-headed giant. "We want you to trim this eucalyptus."

The eucalyptus was a new kind of critter to the Badger Bill. He squinted at the long rambling limbs, up the shaggy-barked trunk. "Is this the characteristic of the



Good care is emphasized for all equipment and employees, also. Employees have uniforms of levis, yellow T-shirts and yellow helmets. Equipment is kept nearly spotless. Johnson is talking with Carl Raw, spray division supervisor.

tree? Is this the way it normally grows?"

"Yes."

"Then that's all I have to know."

It took Johnson a day-and-a-half to do the job, but it proved the merits of his artistic concept. Wales promised if he chose to move the Badger Tree Service permanently to Phoenix, he would never be out of work.

Johnson made the move the following fall. He arrived in Phoenix with three old trucks (including a sprayer), and expected to have a little time to get his equipment in shape and family settled. But true to his promise, Wales already had more work lined up for the Badger Tree Service than it could handle.

Most of the new work, Johnson found, involved no more than he had been doing in Wisconsin. The names of the trees were different but the general techniques of good care remained the same. Except for one or two little things, that is.

Bill grins as he remembers the day he scaled his first palm tree. "It was a complete mystery to me. That winter I was here, one tree man had shown me how to scale one. But in the months I was back in Wisconsin I more or less forgot. Lordy me! One day I got a job to scale some palms. I couldn't remember how they did it. I went deeper and deeper and **deeper**. I had a big shelf on it. I knew **that** wasn't right. I quit!"

He wasn't giving up though. As persevering as the furry little creature he'd chosen for his trademark before leaving Wisconsin, Bill drove his truck home, changed clothes, and got out the family car. A short time later he parked near a fellow palm scaler.

He sauntered over to the man. "Say, I'm from Wisconsin. It's interesting the things you are doing here. How do you do that?"

Unaware, his competitor gave him his much needed free lesson. Johnson drove back and finished his job.

Equally amusing to Johnson is the one they tell on him at arborists meetings, about the time he moved his first saguaro cactus.

Again, he had no idea how to proceed. So he and his helper put a four-foot ball around the six-foot prickly plant and burlapped it from top to taproot. Deciding he didn't dare put a strap around the soft flesh, he chose to nail boards around the cactus and attach a cable and finally managed the move.

Later, after joining the nurserymen's association, he related his prickly experience to his brother members. They roared with laughter. That's when Badger Bill learned the "B & B" method was totally unnecessary for saguaros or cacti of nearly any specie.

Today, the Badger Tree Service operates four trucks and has from five to eight employees.

New techniques in horticultural spraying have led the company to expansion in that direction. A recently created Spraying Division, headed by Carl Raw (another imported Midwestern arborist, from Ohio), is currently performing services in ornamental pest control, weed control and experimental growth retardants.

"There are many promising opportunities in horticultural spraying that should prove worthwhile in any part of the country," Johnson says. "Other tree service companies, hoping to increase their own business, should investigate this field."

More attention to public relations will also aid growth he advises. "As far as a great many people are concerned, trimming trees — arboriculture—is just a menial thing, it doesn't have the prestige of an attorney, landscape or building architect. This is wrong," he declares. "We're not just tree cutters. We're not just tree hackers. "We're a profession to be proud of."

He stresses this idea first among his own men. Badger Tree Service employees report for work cleanshaven, with hair trimmed. They dress uniformly in blue clothing and yellow helmets. Courtesy is a must at all times.

Johnson's frequent press releases and garden club lectures are helping, he believes, in upgrading the image of aboriculture in Phoenix.

On the national level, he has contributed considerable time to the International Shade Tree Conference (ISTC), Western Shade Tree Conference (WSTC), and National Arborist Association (NAA). He instigated the Western Chapter of ISTC in Arizona.

With characteristic enthusiasm, Johnson is eyeing the future. "I'm looking forward to the day my second son, Tim, graduates from Cal Poly Tech and takes over the business," he says. "Then I'm hoping to find time to write a book on the care of Arizona shade trees, and perhaps start a school for aboricultural and horticultural maintenance. This way, maybe, I can see to it more people receive the quality service in tree care that they deserve."

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LANDSCAPE OUTLOOK

EDITOR'S NOTE: American Association of Nurserymen has a standing committee of seven men who are on call to periodically assess the future. The seven got together recently to talk about the future of the landscape industry, generally, among other subjects. The following article summarizes their opinions. Members of the committee are:

S. B. HUTTON, JR., past president of AAN and president of Conard-Pyle Co., West Grove, Pa., nationwide rose and nursery stock company.
C. EDWARD SCOFIELD, vice-president of RA-PID-GRO Corporation, national manufacturer of liquid fertilizer.
HAROLD R. NICKEL, AAN president and chairman of the board of Greenleaf Nursery Co., Muskogee, Okla.
JOSEPH H. KLUPENGER, AAN vice-president and president of Klupenger Nursery & Greenhouses in Portland, Ore.
JOSEPH A. ABRAHAMSON, sales representative for Mount Arbor Nurseries, Shenandoah, Ia., and Greenleaf Nursery Co., Park Hill, Okla.
LAWRENCE W. BACHMAN, secretary of Bachman's, Inc., landscape and retail firm in Minneapolis, Minn.
DR. RICHARD P. WHITE, executive vice-president of AAN.

ALMOST UNANIMOUSLY, an American Association of Nurseryman committee of prognosticators declares that a bright future can be seen for firms engaged in landscaping and landscape maintenance.

The increasing affluence of today's society has accelerated the trend away from "do-it-yourself" vogue of the 50s and early 60s. More people are making more money. In the 15-year-period of 1965-1980, about a 50% increase can be expected in both median family income expressed in constant dollars ($7,000 — $10,000) and in per capita disposable income (from $2,400 — $3,600). In the 1980s, one family in three will be earning $15,000 a year, in dollars of 1966 buying power, compared with one family in 13 today. It is also estimated that by the year 2000, hourly wages will average $7.50 per hour compared with $2.82 at present.

Adding also to the rosy future for landscape is the increasing mobility and burgeoning population of the and burgeoning population.

Hutton: "As for landscaping, little need be said. With a continuing affluent society it can only boom in the foreseeable future. Its single real limitation may be in personnel able to execute it. I would expect to see attempts to build landscaping organizations with many regional branches, and I see no reason for this not to be successful. At the same time, I would expect the independent landscaper to be around for a long time."

Nickel: "The future is confused for the retail nurseryman or garden center operator. One bright hope is for the retailer to get into landscaping. Here he can successfully operate from a very economical location in the age of 'you do it for me' rather than the fast declining 'do-it-yourself' systems on which I believe the garden centers place too much emphasis."

The AAN staff agrees with the Committee in predicting a bright future for landscape. However, it believes that the "character" of today's typical landscape job may change somewhat. The strain of increasing population and prices may put home ownership beyond the reach of many young couples. Increasingly, in areas such as Boston-New York-Washington, Chicago-Pittsburgh and San Francisco-San Diego, apartment buildings and townhouse complexes can be seen sprouting in what were once considered "suburban" areas. This may create a demand for "limited" landscape jobs—container planted balconies, roof gardens, patios. Additionally, sales of mobile homes have been increasing (and their quality improving) for several years. A market calling for specialized landscape services may develop.

Klupenger: "I agree. Planters will be filled with dwarf or low-growing plants which can be cared for with ease. In the western and southwestern parts of the country, we are already beginning to find more of the mobile parks which are becoming very popular for those who voluntarily move or those who are transferred from city to city."

AAN Staff: "One retailer in the Washington area during a recent survey of his customers, was surprised to find that 6.7% of his customers were apartment dwellers. He stated, 'In comparison with homeowners, it may not be much of a market, but then we have an awful lot of apartment balconies in the Washington area that could do with some containerized plants'."

Bachman: "One thing we do not want to overlook is that this increasing demand for landscape services has created and will continue to create serious shortages in plant material. I see this as a trend, and in our area some interesting things are occurring . . . "

Nickel: "I agree. There is going to be a tremendous shortage of nursery stock, not only in shade trees, but in all lines within the next three years. The lined-out material which should be in now to meet this demand is just not there, and at this date we couldn't avoid this shortage because there is just not enough time to grow it."

Scofield: "At RA-PID-GRO we are experiencing a surge of interest in maintenance. It all points out that there is a vast consumer market which is very substantial and very solid. We're getting many inquiries from golf courses, factories and commercial people who occupy the beautiful new buildings under construction. It's very exciting."

Bachman: "What I think is very exciting is that the people who use our plant material are becoming increasingly aware of this shortage. In our area, this uncertain supply has caused landscape architects, developers and others to plan ahead. These people are now coming to us with their needs blocked out two and three years in advance.

At present, a combine of seven golf courses has a three-year contract with us, wherein we agreed to furnish **and** install their specific shade tree requirements. They've furnished us with a list of their anticipated needs and we have set aside a block in our own production for them. But here's the difference from a wholesale grower contract: we have agreed to step out and buy the materials we don't presently have with a guarantee to them that this merchandise will be available when they need it. In some cases we've gone to wholesale growers and placed deposits to hold material for three years hence deliver.

Our deal with this combine is that they get a 10% discount from the current price of the materials in return for a 25% down payment. We believe there is an advantage because there are no future sales costs to contend with, and we have a fourth of the money to work with right away."

Nickel: "Larry, I don't think this trend will be too successful because growers are not going to be willing to take a price now for something projected three years in the future. I'd prefer to make my market now rather than be committed three years away."

Bachman: "Well, we weren't going to try to project prices three years from now. But, I don't think you'd hestitate to do it on this basis

at all. If you had one quarter of my money right now, I think it would be worth an 8 or 10% discount to you."

Abrahamson: "Harold, you're also talking about an entirely different set-up. Your business is to ship smaller plants long distance, while Larry is delivering and installing large material on a local basis."

Nickel: "That's true. We may be seeing an entirely new concept of growing—an 'interim grower' firm, where the supply would run from wholesaler to interim grower to contract. This might be a new type of distribution."

AAN Staff: "And a new type of business. Suppose wholesale growers continue to specialize, and instead of shipping all over the country, they ship to 5 or 6 'interim growers' who assemble the entire range of plant material suitable for an area. These 'interim growers' would grow the material on into larger sizes, and would be geared to efficient distribution and possibly installation. Orders could be taken from small retailers for delivery almost on a 24- or 48-hour notice for delivery. Future contracts and guaranteed supply would also be part of the set-up."

Hutton: "I think installation would also have to be part of the package — the capacity to take the material a customer has reserved and put it where he wants it."

Scofield: "Would maintenance contracts also be a part of it?"

Bachman: "Probably not. This would be separate because most of these big customers — golf courses, large industrial plants, etc., have their own maintenance set-ups. Maintenance is not a big factor, but installation is."

Nickel: "We have long known that a need for large material exists. We can grow it, but we can't ship it. This kind of development might begin to help the situation."

Specialization and service are watchwords for the future marketing of plant material. One large firm in the Northeast is capitalizing on the increasing trend of the use of landscape size plant material in interior plantings. This firm reports that over one-half of its annual sales volume is from the "specialized" use of plant material in "interior landscaping." Formed in 1957, the firm reports that its sales have been doubling every three years.

Working closely with landscape architects, architects, and interior designers, the business supplies comlete installation and continuing maintenance service for interior landscaping.

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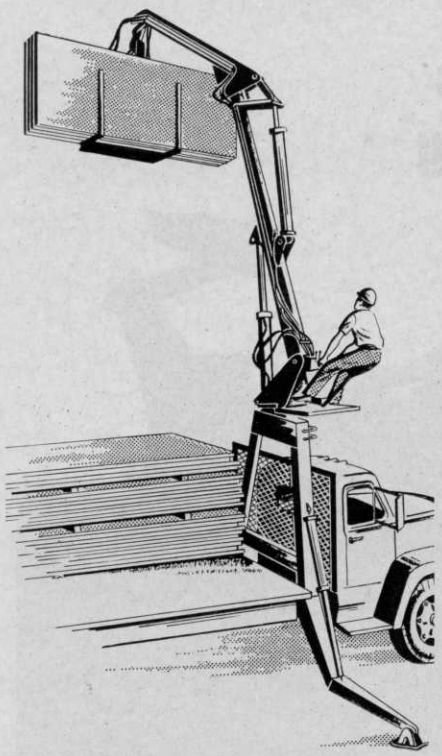

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Warren's Turf Seeking Franchises

Ben Warren, Warren's Turf Nurseries, explains testing procedures to visitors at the turf nursery's research center near Palos Park, Ill.

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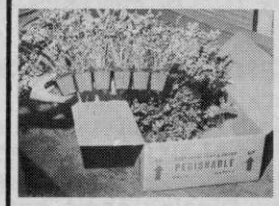

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Warren's Turf Nurseries, Palos, Park, Ill., considered the world's largest turf grower, is pushing franchise grower operations.

The Warren brothers, Bob and Ben, plan to establish associate franchise growers in all worthwhile market areas of the U.S. where Warrens have no operation of their own.

Already, franchise growers have been licensed in Maryland, Missouri, Kansas, Minnesota, Idaho and Nebraska.

At the heart of the franchise operation are the three grasses developed by Warrens Turf Nurseries —A-34, A-10, and A-20. All have certain recognized advantages over other bluegrasses.

Ben Warren developed A-34 from a grass he found on a golf course thriving in areas under 65% to 70% shade. It blends well with other varieties and also does well in sunny areas. Warren found two other grasses about the same time, designating them A-10 and A-20.

A fine-bladed grass with a deep green color, A-10 takes heat and humidity exceptionally well, having survived in such hot humid areas as St. Louis, South Carolina, Newport News, Va., and elsewhere. It has promise for southern states where its edge over bermudagrasses is retention of its deep green color all year round.

A-20 is considered by many to be Warren's best discovery. It greens up earlier in the spring and in the cold areas of the north stays green

longer in the fall. In southern areas, it retains beauty the year around. It is a little darker than Merion in color, its leaves are slightly more narrow than Merion and have an upright growth characteristic. A-20 does well at almost any mowing height from ⅜-inch to two inches. Of particular interest to sod growers, it promises to be a money maker because when sod of A-20 is stripped from the growing fields, it grows back from the rhizomes extremely fast. Several of Warren's branch nursery managers report producing two crops of A-20 in the same growing season.

Both A-20 and A-10 must be planted vegetatively with plugs. The plants that develop from seed do not carry on the fine characteristics of the parent plants. Machines capable of planting up to 10 acres per day are in use and can be rented from Warren's.

All three of the Warren grasses are rated high in resistance to turf diseases. An additional note of interest was reported recently from one franchise grower who said that the only grass in his area that sod web worms would not eat was A-20.

Warren plans no expansion into Canada, stating that the reason is Canada's failure to provide plant protection patents. Bob Warren expressed interest in an English market, citing the amount of population in such a small area and the Englishmen's love of a beautiful lawn. An Italian nurseryman approached Warren's recently and plans to establish a turf operation in Northern Italy.

Cal-Turf Introduces A New Turf Colorant

A new turf dye has been introduced by Cal-Turf, Inc., Camarillo, Calif., for use on all dormant turf including Bermudas, St. Augustine and Zoysias.

Called Cal-Verde, the dye was developed by Cal-Turf researchers to provide lush green turf color in a long-lasting, easily applied form.

Once dry, Cal-Verde will not stain clothing or shoes, and one application normally lasts a full season. The new product is also excellent for dressing up growing turf, such as for shows, grand openings, etc., according to Paul Ledig, Cal-Turf Sales Manager. In these applications it is used half-strength.

Cal-Verde is sold in one quart cans (one quart covers 1,000 square feet). For more information, circle (721) on the reader service card.

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EDITOR'S NOTE: Members of the Pacific Northwest Pesticide Applicators Association have filed a petition for review of the federal government's latest restriction on DDT — barring use on ornamentals. Jennings P. Felix & Associates has been retained. The petition was filed Sept. 30 in the name of Crop King Company, a registrant for DDT. At the annual conference in early September, unanimous approval was given for a total-member assessment to finance the necessary litigation. Now PNPA president George M. Harrison has written an open letter seeking other industry support.

Pacific Northwest Pesticide Applicators Ass'n.
P.O. Box 66022
Seattle, Washington 98166

Enlist me in the CAUSE effort. Amt.
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WE HAVE A CAUSE—YOUR CAUSE

Controlling and Using a Safe Environment

TO WHOM IT MUST CONCERN:

We are members of the Pacific Northwest Pesticide Applicators, Inc., whose purpose is 1) to improve the standards of pesticide application and to bring together members of the insect, disease and weed control industries and allied horticultural and agricultural trades, 2) to promote goodwill, safe and ethical practices among the members and to create acceptance and confidence among the general public toward members of this association, 3) to promote discussion and interchange of ideas among members of all knowledge and experience that may be helpful in raising standards and maintaining these high standards of pesticide application.

We are the only regional organization of our type in the United States. That is why we feel that we must challenge the governmental decisions imposed on our industry, upon allied industries and upon the public by the almost complete banning of DDT. As you must be aware, DDT was only the beginning. Already a good portion of the other chlorinated hydrocarbons are being challenged. Aldrin, Dieldrin, Chlordane, Heptachlor, Endrin, Lindane and BHC are now being judged. Judged we fear, not by scientific evaluation, but by a pressure group composed of some self-styled ecologists, misinformed politicians, and a news media concerned mostly with headlines.

We have petitioned the Federal and State Governments for a review on the uses of DDT and to do this, have expended most of the money in our treasury. We are looking for help from you and anyone who is concerned about the damage to the agri-business that is taking place with the banning of DDT, other chlorinated hydrocarbons, and to our chemical controls in general.

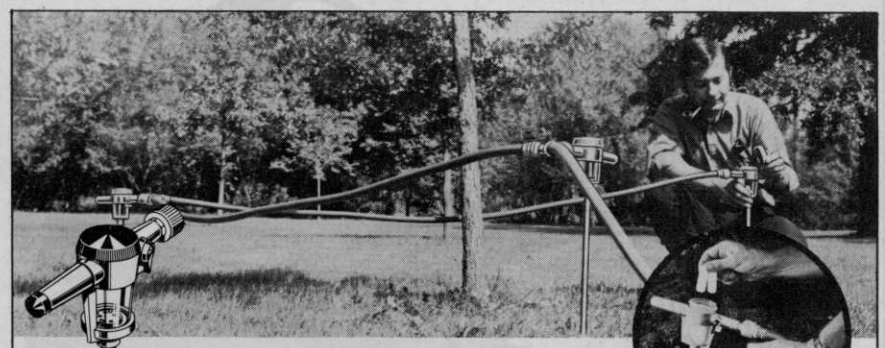
CAUSE is a special movement within our organization devoted to the continuing fight against ignorance and hysteria regarding pesticides and their use.

To promote CAUSE and implement it, we have hired a law firm and scientific advisers. This understandably entails a large outlay of cash. CAUSE needs your help: 1) Join our association. 2) Help with your donations to defray expenses.

You must feel the same as we do about this problem. You can see the havoc that will be created in the ability to control disease and insects, not only in the field of agriculture, but also in health, hygienic and structural areas; act now to help us with our cause. This trend of rash restrictions must be curbed long enough for science and reasonable action to prevail.

Please fill in the mailer and send along comments or suggestions. We need the help of all concerned industry and sound thinking people.

GEORGE M. HARRISON,
President, P.N.P.A., Inc.



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OHIO TURFGRASS

BRUSH UP on your knowledge about courts of law, the keynoter of the Ohio Turfgrass Conference advised those who handle pesticides.

"This last year has seen a proliferation of legal proceedings of all shapes and sizes, and in quantity greatly exceeding the total of all the prior years of regulation put together," stated Bernard H. Lorant, pesticide consultant and former vice-president of research and development for Velsicol Chemical Corporation.

"We have entered a new, in some respects, ominous, but perhaps necessary era in the consideration of pesticides. I call it the legal era; the era when scientific questions will be settled by formal, adversary proceedings in the courts, or in quasi-judicial arenas. More frequently, questions of efficacy and safety for pesticides will be decided by lay judges.

"That the pendulum will swing too far on the ecology side, to the detriment of all, seems likely."

The pesticide industry will continue indefinitely, however, predicted Lorant, because pesticides are required. He defined two doctrines that he believes will shape the industry. The "essentiality" doctrine is the concept that a pesticide will not be used unless its use is essential and there is no safer pesticide that can substitute for it. The "preemption" doctrine—or rather the lack of it—is seriously affecting pesticide progress, he said. The proliferation of diversity of state legislation regarding pesticide application, efficacy and safety standards, and licensing is rapidly making the cost of marketing new products prohibitive.

While Lorant's remarks gave cause for pessimism, Dr. Herb Cole, Jr., Penn State University pathologist confessed that "nothing disturbs me more than the sorry state of morale regarding pesticides."

"It greatly grieves me that the issue has become polarized. Somewhere in the middle we should be moving."

Recognition of some simple truths should help establish in the public mind a place for pesticides in the whole scheme of things, he said, among them:

—Pesticides should not be regarded as a pollutant along with other sources. Pollution from industry, he contended, comes from products that have no use to man.

—Pesticide food residue hazards? Very little is known about the hazards to human health from "nature's foods." Spinach causes kidney stones in frogs and and turnips can bring on thyroid problems, he illustrated.

—While the balance of nature may keep pests and pathogens in check, the swing of the pendulum is pretty harsh. "John F. Kennedy became president of the U.S. because of the balance of nature," he claimed, citing as the basis the rampage of the Irish potato blight that caused the starvation of 2½ million Irishmen and the emigration of thousands of others, including the Kennedys, and subsequent settlement in the U.S.

—Pesticides are not uniquely hazardous because large doses are harmful. "All materials are toxic if the amount is large enough," he reminded.

—Monoculture is asking for trouble—witness corn and southern leaf blight, Merion bluegrass and striped smut, and the American Elm and Dutch elm disease.

Also with consternation, Dr. Cole exclaimed: "Why have we as landscaping and turf specialists fought against becoming professional? Concerning licensing examinations and standards, we have defended to the death the right of every nincompoop to use anythng he wants."

Harold L. Porter, chief of Plant Industry, State Department of Agriculture, explained the provisions of Ohio's new Pesticide Use and Applicator Act. Commercial pesticide applicators will be licensed in the classifications in which they demonstrate their competence through examination. They can elect to take examinations in as many as nine categories.

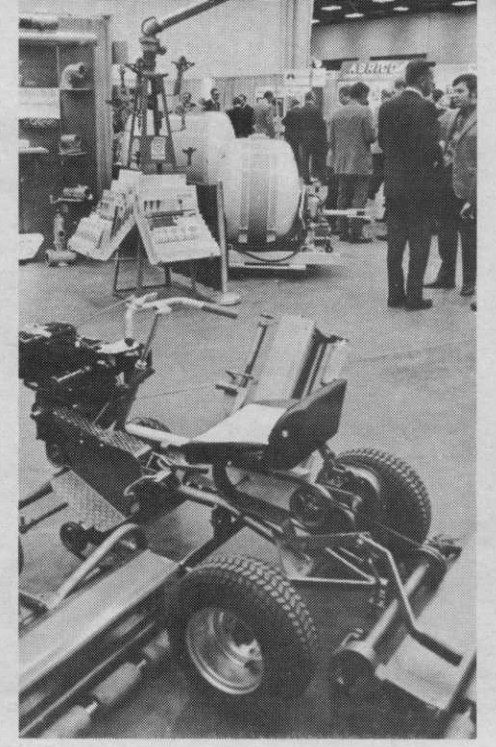
Among technical papers presented, Robert W. Miller, Extension agronomist reported on testing of pre-emergence herbicides for effectiveness against crabgrass.

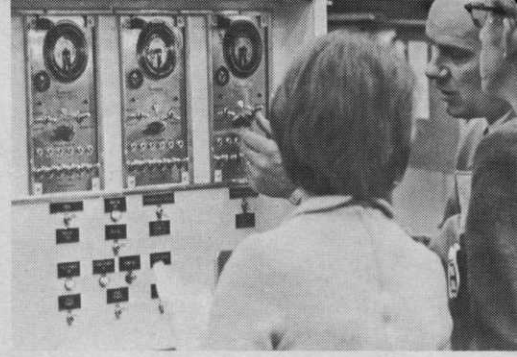
While several materials gave 90% to 100% control, they were less effective in controlling silver crabgrass, he said.

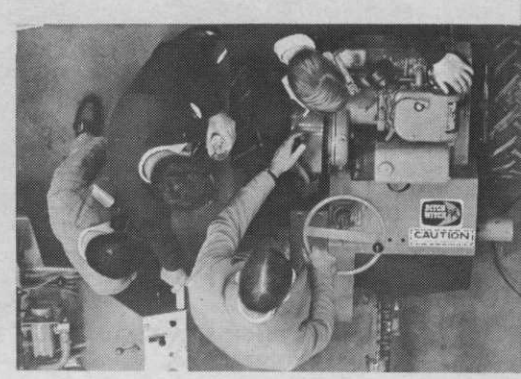
Herbicides tested were Bandane, Balan, Betasan, Arsenate, Dacthal, Tupersan, and Azak. All gave excellent control of crabgrass and foxtail except Arsenate which gave erratic results on all annual grasses but poa annua in the test. The herbicides gave fair to good control on

More than 1,150 persons made it the biggest Ohio Turfgrass Conference yet. Representative pictures here offer a capsule look at the people and types of equipment and products that were brought together in Cincinnati's new convention center.

CONFERENCE







silver crabgrass with the exception of Betasan and Azak which gave only poor to fair control. On poa annua, one of the most troublesome annual grasses on golf courses, all listed herbicides, including Arsenate, gave good control except Tupersan, said Miller. Control ratings for poa annua were based on how well the herbicide prevented plants from establishing from seed. Eliminating established poa annual was not considered in this rating, he said.

Miller explained the importance of proper use of herbicides to get the desired results. He said that no pre-emergence herbicide is completely safe to use on all turfgrasses. Some grasses are more sensitive than others to a particular herbicide. Therefore, Miller suggested that users stick strictly to recommendations when applying any one of the herbicides.

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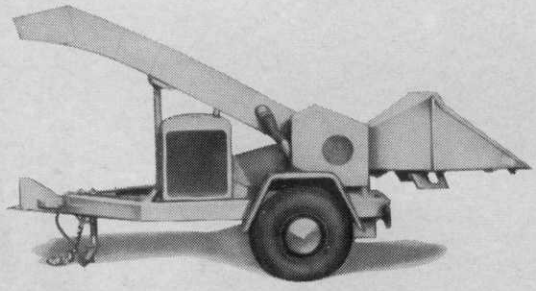

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NEW .315" PITCH SAW CHAIN, Sabre Saw Chain, Lewiston, N.Y.

A new smaller-pitch chain is said to improve the performance and safety of popular lightweight chain saws. The special .315" pitch chain replaces the ⅜" and .354" chains used on Homelite EZ and XL, McCulloch Mac 10 Series, and Remington PL-5, PL55, SL-11 and other lightweight chain saws. The .315 has 13% more cutters than the ⅜", has more drive links and accepts and retains more lubrition. The chain runs smoother and at a lower temperature. Sabre .315" is a coined cutter Pro-Chain available in both .050 and .058 gauge. It carries the usual Sabre no-time-limit guarantee on workmanship and materials. For more details, circle (701) on the reply card.

COMPOSTERS, Gilson Brothers Company, Plymouth, Wis.

Gilson offers two distinct types of shredder-grinders for 1971 — for composting or just lawn and garden waste disposal. Three models feature a grating of square bars, for superior performance with fine grinding action for fine textured compost. The compact new mulcher and grinder models are easily stored, have semi-pneumatic tire wheels for easy transport, and an idler clutch for easy starting and extra convenience. A flywheel-type pulley on the tine shaft helps turn bulky leaves, clippings and prunings into valuable fertilizing mulch. All models have Briggs & Stratton engines in 3, 5, and 6 hp sizes. For more details, circle (702) on the reply card.

pH METER, INTERNATIONAL BIOPHYSICS CORPORATION, Irvine, Calif.

The TROpHY pH meter is a battery powered, direct-reading instrument for precise pH determinations. Stated features include: true portability, weighing about 4 lbs.; only battery-powered meter to offer recorder output; lowest price unit to offer expanded scale, permitting accuracy to two decimal places; linear IC circuitry provides immediate response with absolutely no time-consuming standby requirement necessary; amplifier is linear over the entire range of the instrument. For more details, circle (703) on the reply card.

LOW PROFILE HYDRO-MULCHER, Bowie Industries, Bowie, Tex.

Features of the new Bowie Hydro-Mulchers include a lower profile, new power plant, better agitation and controlled spraying from both central tower or by hose extension. Models range from 500 gallons to 1,000 gallons and up. The Bowie Hydro-Mulcher is ideal for economically establishing turf or seed beds anywhere—or other planting where environmental control is important, such as reforestation, agriculture, parks, roadsides, golf courses, erosion control, and land reclamation projects. For more details, circle (707) on the reply card.

GOLF COURSE SPRAY ATTACHMENT, John Bean Div., FMC Corporation, Lansing, Mich.

A new Rotocast air spraying attachment increases the versatility of present golf course sprayers. Greens can be sprayed without going onto the turf with your vehicle, and leaves can be removed prior to dispensing spray. The Rotocast attachment can be used to control weeds and brush, control mosquitoes and flies, spray shrubs and small trees and control fungi. It can be used to disinfect locker rooms and buildings. The Rotocast handles herbicides, pesticides, fertilizers and seeds equally well. For more details, circle (708) on the reply card.

HEAVY-DUTY COMMERCIAL EDGER-TRIMMER, Bunton Co., Louisville, Ky.

Especially designed for professional edging and trimming. Adjustable lever at operator's finger-tips allows for deeper edging around flower beds, along curbs, sidewalks and concrete drives. Five quick-change positions for vertical or angle edging, to horizontal trimming (10" width) around trees, walls, buildings and shrubs. Three heavy-duty, 10-inch ball-bearing wheels, with front and rear wheels specially adjustable (up or down) for edging curbs up to 12 inches in height. 3 hp Briggs & Stratton engine with three-quart fuel tank. For more details, circle (704) on the reply card.

ROOT FEEDER PACKAGE, Universal Metals, Coopersville, Mich.

Universal Metal Products introduces this new 2 in 1 merchandiser for its Jet Feed line of root feeders and pellet fertilizers. Now both root feeders and pellet fertilizers are dispensed from the same merchandiser. Color graphics explain the correct use of the feeder and how to select the proper formula for the type of plant to be fertilized. The new merchandiser as well as Universal's complete line of sprayers, dusters and allied products are described in a new catalog, U-71, available free by circling (705) on the reply card.

TRACTOR FOGGER, Village Blacksmith, Watertown, Wis.

The "Big Job" Blitz Fogger Model 400 tractor fogger attaches easily to any four-cycle lawn and garden tractor, excellent for use where large fogging coverage is d e s i r e d — estates, golf courses, industrial grounds, parks. Features pressurized insecticide tanks, visual fuel gauge, all fittings. Approved as accessory equipment by more than 10 brand name tractor manufacturers. For more details, circle (706) on the reply card.

ELECTRIC POWERED APPLICATOR, Root-Lowell Corporation, Lowell, Mich.

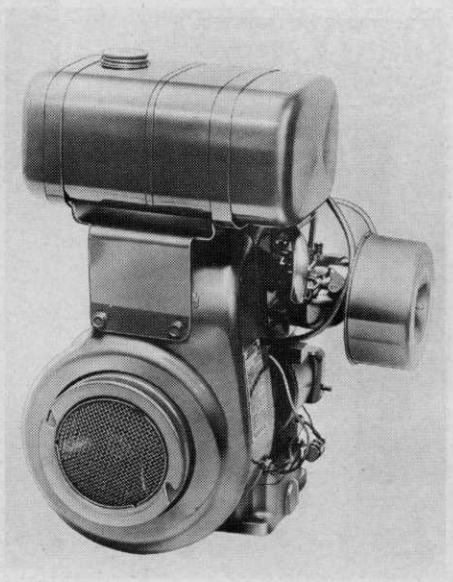
The electrically powered chemical applicator R-L Atomite Duster/Spreader is said to dispense a controlled dust or granule more than 50 feet in dust and 25 feet in granules. Power is a heavy duty 115-volt AC/DC motor developing 20,000 rpm. A shatter and chemical resistant polyethylene container holds up to 10 lbs. average density dust or 8 lbs. granulated materials. The three-wire electric cord is 20 ft. Can operate from auxiliary DC generator with capacity of 1,000 watts or more. For details, circle (709) on reply card.

CAST IRON FITTING FOR PVC PIPE, Independent Fitting Co., Portland, Ore.

A completely new rubber ring sealed joint fitting that eliminates the need for solvent welding has been announced. TIF-TEC (thermal expansion-contraction) line is a new cast iron fitting for PVC and standard steel pipe is made to close diametrical tolerances, has full class D wall thickness and is initially available in 4", 6", and 8" sizes. Also accommodates standard steel pipe with IPS dimensions. Withstands up to 3¼" of longitudinal contraction when sun-heated pipe is installed and cold water introduced. For more details, circle (710) on the reply card.

TREE PRUNER BULLETIN, Ackley Mfg. Co., Clackamas, Ore.

Industrial Tree Pruner sales bulletin No. 25 gives details on all models of this big-capacity cutter used in clearing right-of-way, for tree thinning, and similar jobs. Handle length options and materials available as well as hydraulic pressure required plus gallonage of hydraulic fluid needed for full power stroke on cut and retract are included. For a copy, circle (711) on the reply card.

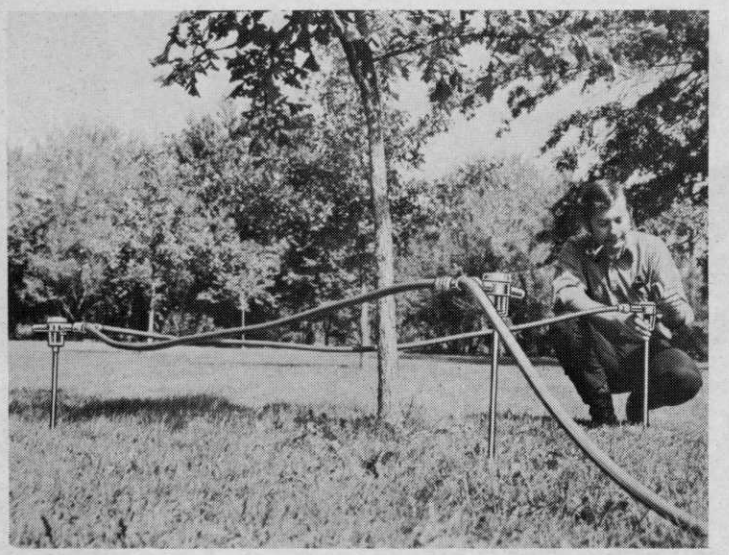


ENGINES, Kohler Co., Kohler, Wis.

New and standard on Kohler 6¼ hp, 7 hp, and 8 hp engines is a larger, top-mounted fuel tank of 1½ gals. capacity and a heavy duty tank mounting designed for the most punishing applications. A side-mount tank with fuel pump is optional. New also on all three engines —for both battery ignition and breakerless ignition engines — is a 15-amp alternator system, which replaces a former 10-amp system. The three engines, Models K141 (6¼ hp), K161 (7 hp), and K181 (8 hp) are a family of interchangeable engines, alike in appearance and dimensions. All three are air-cooled, cast iron engines of large bore and short stroke design. For more details, circle (712) on the reply card.

REVISED CATALOG, Knaack Mfg. Co. Crystal Lake, Ill.

Knaack Manufacturing Co. has announced a new and completely revised catalog for its line of steel tool and equipment chests; mobile and stationary work benches and accessories. The new catalog illustrates recent product additions to the Knaack line, as well as several significant changes. Copies are available by circling (713) on the reply card.



MULTI-FEED SYSTEM, Ross Daniels, Inc., West Des Moines, Ia.

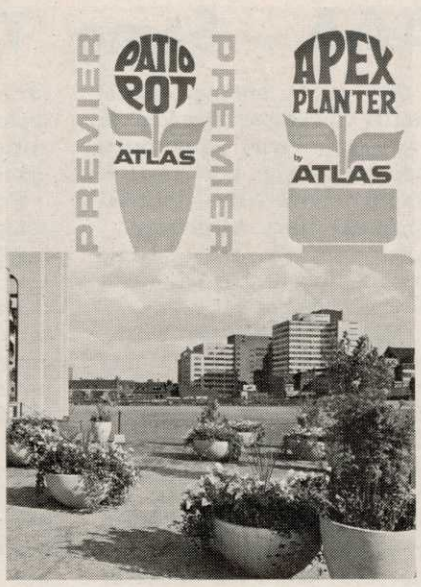
New for 1971 is the Ross Multi-Feed System, primarily for the professional groundskeeper — the landscaper, parks and industrial buildings — all people who desire best results and still are aware that saving labor saves money. The Heavy-Duty Ross Root Feeder units can be ganged in series of three or more and operated from one water line. The Multi-Feed Kit contains three feeders, two sections of heavy duty hose and two necessary siamese fittings. For more detaiils, circle (717) on the reply card.

PORTA-SPAN, Standard Manufacturing Co., Cedar Falls, Ia.

A new type of a portable bridge called the Porta-Span® has been announced by Standard Mfg. The new model features redwood-stained wooden hand railings, matching the bridge. Porta-Span® is a portable bridge for use over creeks, streams and ditches, on golf courses and in parks. Sizes vary from eight to 20 ft. long, three or five feet wide. The new hand railing is optional as is a steel and post railing. For more details, circle (718) on the reply card.

THREE-WAY TURF MACHINE, Kin-Co., St. Paul, Minn.

John B. Kinkead, president of Kin-Co, has announced the purchase of the Henderson line of Turf Equipment from Henderson Manufacturing. The equipment will continue to carry the Henderson name. The Henderson Contour GPM (above) mows, power rakes, or slices . . . converts from mowing to raking to slicing merely by changing cutter units, held in place by four easy-to-reach screws. Mower blades can be file-sharpened; slicing and raking blades do not need sharpening. Machine is available with 3 or 4 hp, 4-cycle engine. For more details, circle (714) on the reply card.

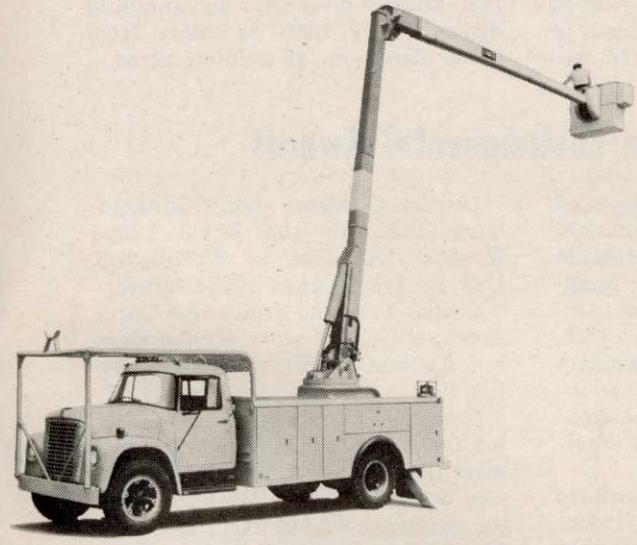


POTS AND PLANTERS, Atlas Asbestos Co., Montreal, Quebec

Two separate lines of asbestos-cement pots and planters and garden furniture have been announced. Classically designed Premier Patio Pots include 21 sizes and styles of cone, dish, tub, and vase shaped rimmed pots used primarily by homeowners, gardeners and interior decorators. Apex Planters are frequently specified by landscape architects and landscape gardeners for hotels, office buildings, shopping malls, municipal street parks, golf courses, etc. 39 styles are available ranging in size up to 7 ft. Planters come in cone and dish, circular, rectangular and square tubs, and special lamp-post and shamrock shape. For details, circle (715) on the reply card.

DUR-A-POXY REPAIR RESIN, Dur-A-Flex, Inc., Hartford, Conn.

A water-based epoxy resin, it has no objectionable odor, is fireproof, has low toxicity, and unlimited shelf life. It can be used on swimming pools, gutters, masonry steps and basement. Works on wet surfaces. Mixed with sand and cement, it picks up structural properties and advantages. An extra strong bonding compound, it will bond new cement to old cement, bond gypsum plaster and Portland cement to any structurally sound surface, bond plaster, cement topping to most painted surfaces. For more details, circle (716) on the reply card.



LINESMAN II HI-RANGER, Mobile Aerial Towers, Inc., Fort Wayne, Ind.

Series 5F HI-RANGERS named "Linesman II" incorporate eleven major improvements in new models for working heights to 57 ft. Included are increased personnel platform load-bearing capacity; additional upper boom insulation and new 24" insulation break in the lower boom; redesign of boom components to meet latest utility standards; bearing and hinge-pin improvements for reduced maintenance; constant system operating pressure at 1200 psi to improve tower and hydraulic tool operation. Catalog available by circling (719) on the reply card.

SELF-DUMPING BOX FOR PICKUP TRUCKS, Mathews Co., Crystal Lake, Ill.

Quick, easy, low-cost conversion of any domestic pickup truck to a self-unloading dump truck is possible. The 16-gauge, galvanized steel box unit is 48½" wide by 19½" deep and is offered in two basic models: Model D-96 (96" long) for ¾-ton trucks and D-72 (72" long) for half-ton short wheel base models. The D-96 has 2 cu. yd. capacity; a 3 cu. yd. version (D-96H) has 7" extensions on each side. Box slides in and out on ball-bearing rollers mounted on steel channels bolted to the floor. For more details, circle (720) on the reply card.

0217 BRAND ®
FYLKING KENTUCKY BLUEGRASS
U.S. Plant Patent 2887

Exciting! Especially in lawn grass! 0217® Brand Fylking Kentucky bluegrass thrives on low cutting. This is the one lawn grass you can cut low enough for a home putting green, yet without special care. Everyone who owns a putter would like a private backyard practice green so he could cut a few strokes off his game!

Fylking has many outstanding attributes. It forms a dense, luxuriant turf that strangles weeds. It's more disease-resistant, takes hard use, resists drought, greens up earlier in spring, stays greener in summer, greener longer into fall. It has been internationally tested more than 12 years and proven superior. Ask for the low cut beauty in seed or sod. 0217® Brand Fylking Kentucky bluegrass is now at your local wholesale seed distributor.

Another fine product of
Jacklin Seed Co., Inc.

NAAA – Same, Yet Different

Some 750 pilots and personnel from related industries checked in for the National Aerial Applicators Association convention, but they left under another name—The National Agricultural Aviation Association.

Members adopted the name change at the fourth NAAA event Dec. 7-10 in Las Vegas.

Les H. Mills of La Crosse, Wash., was elected president, succeeding Ray Thornton of Belle Rose, La. Other officers are: Vice-president—Terry K. Pfeil of Waseca, Minn.; secretary—Jack W. Duke of Tuscaloosa, Ala.; treasurer—Russell M. Benson of Sterling, Colo. Farrell Higbee remains executive director.

Keynoter U.S. Sen. Jack Miller of Iowa criticized the "illogical" manhandling of pesticides that has occurred as a part of efforts to reduce pollution.

Pesticides are responsible for an extremely small portion of pollution and extremely great contributions to human health and welfare, he noted. Research to date has indicated how little we know about the total subject. Much more information is needed, he said, before a meaningful benefit-cost ratio to society can be determined.

Therefore, "the logic escapes me," he continued, to justify the HEW commission on pesticides recommendation that persistent pesticides, such as DDT, be phased out within two years. Such action, he added, in face of no evidence that these materials are hazardous to human health and no suggestions for substitute materials is "premature and arbitrary."

Problems of pollution "are so complex and solutions so far reaching," Sen. Miller said. "that nothing less than scientific and economic research should go into them. Partisan politics, self-seeking publicity, emotionalism, rumors, personal profit, and interagency or intergovernmental rivalries have no real relevance.

Sen. Miller expressed doubt on the contribution that could be expected from the new Environmental Protection Agency, depending on the role it plays. He challenged EPA, with regard to pesticides, to begin by seeking the "prevention of excessive and injudicious use."

Fearing EPA may be influenced by questionable studies, such as the HEW report, he added that "If, instead of regulatory action promised on adequate research, we experience an excessive and injudicious exercise of regulatory power by EPA, a great amount of prolonged and complex litigation is in prospect."

Sen. Miller congratulate NAAA for helping bring about a "industry maturity" from the old cropduster days. He noted the growth of NAAA, whose members now spend an estimated three-quarters of a billion dollars on chemicals annually dispensed by 2,000 operators from 6,000 planes on 90 million acres.

ALCA Bestows Seven Environmental Awards

Seven winners were announced this month in the first Environmental Improvement Awards program sponsored by the Associated Landscape Contractors of America.

ALCA is a Washington, D.C., trade association having members throughout the country who are actively engaged in landscape construction or the horticultural treatment of land areas.

Winners are: Purdy & Associates of San Diego, for Sea World Sky Tower owned by Pacific Southwest Airlines:

A. Keesen & Sons, Inc., Denver, for the Bethesda Hospital and Community Mental Health Center;

Naud Burnett Landscape Company, Inc., Dallas, for River Oaks Apartments;

Lawrence & Ahlman, Inc., Dundee, Ill., for the Chicago Circle Campus of the University of Illinois;

Gustin Gardens, Inc., Gaithersburg, Md., for the David Lloyd Kreeger residence in Washington, D.C., an art museum of the future;

Corliss Tree and Landscape Corp., Essex, Mass., for work on the Eastern Airlines Terminal in East Boston; and

Gateway Gardens, Oviedo, Fla., for the Jess Parrish Memorial Hospital in Titusville, Fla. Gateway also received an award of merit for the residence of Mr. and Mrs. T. H. Cunningham in Silver Spring, Md.

Purpose of the Environmental Improvement Awards Program is to make citizens aware of environmental improvement through quality landscaping, to recognize citizens who have taken action through quality landscaping to achieve this end, and to reward skilled professionals who have executed the landscape work.

Dr. George H. Bayer, left, of Agway, Inc., Syracuse, N.Y. is the new president of the Northeastern Weed Science Society. He succeeds Dr. John F. Ahrens, right, of the Connecticut Agricultural Experiment Station, Windsor, Conn. Dr. Bayer was elected at the weed group's 25th annual meeting recently in New York. The new vice-president is Dr. Arthur Bing, Cornell Ornamentals Research Laboratory, Farmingdale, N.Y. Dr. H. P. Wilson, Virginia Truck and Ornamentals Research Station, Painter, Va., is secretary-treasurer. Committee chairman for 1971 are: Program — Dr. Ralph Hansen, Hercules, Inc.; Research Coordinating — Dr. William Duke, Agronomy Dept., Cornell University, Ithaca, N.Y.; Sustaining Membership — Vic Unger, Rohm and Haas, Spring House, Pa.; Publications — Dr. Theodore R. Flanagan, University of Vermont, Burlington, Vt.; Public Relations — Dr. Joseph Cialone, Rutgers University, New Brunswick, N.J.; Awards — Dr. John F. Ahrens; Weed Science Society of America Representative — Dr. Chester Dickerson, Jr., Monsanto Co., Allentown, Pa.

1270

- EXCLUSIVE SPRING-ACTIVATED FEED PLATE eliminates need for flywheel; assures faster, quieter operation. Automatically takes larger size wood without adjustment, extra power, or extra fuel.
- FOUR MODELS with wood capacity from 4½" to 7" dia.; a variety of power units.
- EMERGENCY SAFETY STOP SWITCHES at top and bottom of feed apron.
- PATENTED TWO-WAY DELIVERY CHUTE for side or front chip flow (optional).

Ask for a demonstration to see the BIG DIFFERENCE in brush chippers!

FITCHBURG CHIPPER

M-B COMPANY

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The Royal Line of Governmental Equipment Since 1907

Look Mom... One Hand

THE ACKLEY HYDRAULIC PISTOL GRIP CHAIN SAW

gets the trimming job done faster and easier.

So light, so well balanced, so easy to maneuver . . . every trimming job goes faster with the Ackley Pistol Grip Hydraulic Chain Saw. Powered by the HYREVZ hydraulic motor it zips through limbs and trees big and small hour after hour with never a miss or sputter. Quiet too . . . much, much quieter.

Requires only 1000 to 2000 psi and 5 to 8 GPM. Variety of saws. . . 9" to 21". Fully insulated handle.

Also available in a long handle (up to 5') model with hi-dialectric epoxy.

Write for Free literature on all Ackley tools, air and hydraulic, that can help you get the job done with less cost at every turn.

ACKLEY MANUFACTURING COMPANY

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Clackamas, Oregon 97015
Phone 503/659-5660

For More Details Circle (131) on Reply Card

trimmings

BE AWARE OF THE SUBTLE SLANT that writers can exercise. Witness these two paragraphs reporting on a section of a study on the effects of 2,4,5-T use in Vietnam.

Wrote William D. McCann in the Cleveland Plain Dealer:

"There are indications that in heavily defoliated areas human stillbirths and birth defects may be increasing, but evidence is considered inconclusive so far, More research on this question was urged by the commission."

This paragraph comes from Newsweek magazine:

"On one issue the Army received almost a clean bill of health. The team reported it could find no conclusive evidence that the defoliants affected the health of the civilian population, or that they had caused any striking increase in the number of birth defects. Even so, the panel strongly advised that long-term studies be undertaken to resolve these questions more accurately."

DART TREE FARM, Middle Haddam, Conn., needed a used mist blower, so president John R. Dart placed a classified ad in WEEDS TREES and TURF. He got 25 responses. After selecting one, he didn't ignore the other two dozen. Instead, he sent this letter:

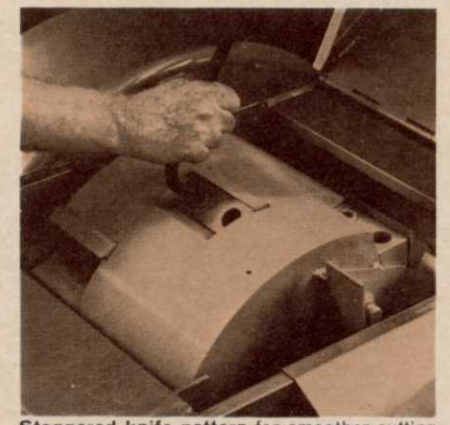
"Thanks very much for answering our ad for a used mist blower in WEEDS TREES and TURF. We have, however, acquired a mist blower but your inquiry will be kept on file for future reference, that is, if it's still available at a future date. Answers about the ad were great and nationwide. Naturally, we selected one near home. It is gratifying to know so many read WEEDS TREES and TURF want ads."

* * *

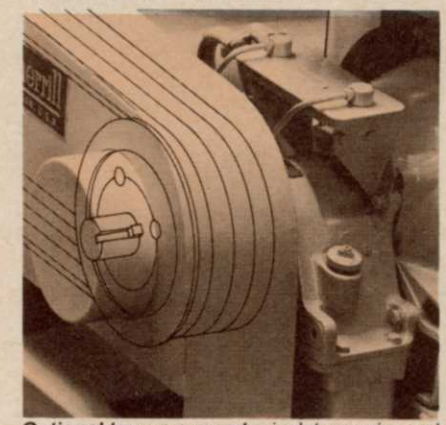
U. S. DEPARTMENT OF LABOR has brought charges against a Colorado tree service company for underpaying its workers, reports Cervi's Rocky Mountain Journal. The tree company got three government contracts for tree planting. The work was subject to the Service Contract Act that requires the contractor to observe minimum compensation standards. If found guilty, the tree company must pay the government the amount of money necessary to bring its employees to minimum standards. The money is then disbursed to the employees. The tree firm could also be denied government contracts for three years.

Mitts & Merrill Brush Chippers For... better design... more efficiency

For more than 115 years Mitts & Merrill has been making specialized machinery for industry. A major part of our business is equipment to reduce scrap and waste. This experience is incorporated into design features on our brush chippers that result in higher efficiency and longer, trouble-free service for you. Only Mitts & Merrill brush chippers offer features like these:



Staggered knife pattern for smoother cutting action. Mounted on an all-steel cylinder that, even without an external flywheel, is heaviest in the industry. Each cylinder revolution gives more cuts, produces smaller chips of uniform size. Self-adjusting knives are reversible; give twice the service between sharpening.



Optional torque converter isolates engine and transmission from cutting shock to minimize maintenance. Makes operation virtually fully automatic; increases operator productive time. Available on all models.

Plus...

• **Positive safety-lock pin** for greater operator safety • **Swing-away, folding feed chute** protects cutting chamber; allows instant access and increases maneuverability • **Heavy duty construction** includes coil spring, torsion-type suspension, and box tubular steel frame.

For complete information, specifications and name of dealer nearest you, contact Mitts & Merrill, Inc., Dept. WTT-51, 109 McCoskry St., Saginaw, Michigan 48601.

mitts & merrill — walco

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classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Rates: "Position Wanted" 10¢ per word, minimum $3.00. All other classifications 20¢ per word, minimum $4.00. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment. Boldface rule box: $25.00 per column inch.

USED EQUIPMENT

SPRAYERS, chippers, log splitters and other equipment at large savings. Let us know your needs. Equipment Sales Company, 5620 Old Sunrise Highway, Massapequa, New York 11758.

FOR SALE—Hardie L-80 mist blower mounted on trailer but easily mounted on truck. Excellent condition, needs paint, $500.00. Antietam Tree Service, Inc., Box 2177, Hagerstown, Maryland 21740.

POSITIONS WANTED

TURF MANAGER experienced in sod production, general maintenence services, sales, with excellent references and background, desires challenging position with company interested in growth. Southern area preferred. Box 64, Weeds Trees & Turf, 9800 Detroit Avenue, Cleveland, Ohio 44102.

"Are you sure this is what he meant by aerial spraying?"

HELP WANTED

WANTED: Top-Notch Tree-Service Salesman. The man we want has a degree in forestry or equivalent, five years' experience in selling tree work, hiring and managing tree and landscape crews, and is ready to accept responsibility and progress with a dynamic company. If you are the man, you will be well-compensated, with top salary, company car, with bonus and commission geared to performance. And a liberal pension plan. You will be proud to sell our services to homeowners, utilities, municipalities, and industries. We are one of the nation's top 10 tree care and landscaping businesses, and growing. As we grow, you grow, too. Write us about yourself, or send a resume. Your reply will be treated confidentially. Write c/o Box 66, Weeds, Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

GREAT OPPORTUNITY FOR THE MAN WHO LIKES TO BE HIS OWN BOSS! National leader in tree service, operating from Maine to Florida, offers excellent opportunity in sales and management. Ability to work with public and personnel is important. Must be experienced in tree work or horticulture. Excellent starting salary, expenses and fringe benefits. Intensive training course and outstanding growth potential. Send resume of experience or educational background to:

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BARTLETT TREE EXPERTS
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SOD QUALITY Merion seed for discriminating growers. Also Fylking, Delta, Park, Newport and Prato bluegrasses as well as fine fescues. We will custom mix to your specifications. Michigan State Seed Company, Grand Ledge, Mich. 48837.

COMPEX® COMPATIBILITY!

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for liquid fertilizer-pesticide mixtures

COMPEX *is* compatibility! COMPEX dramatically improves the stability of fertilizer-pesticide mixtures, thus insuring their safe, effective, simultaneous application. COMPEX is essential if the equipment used has poor or no agitation. It's often necessary with equipment having good agitation. For further information see your Ag Chem Supplier or write:

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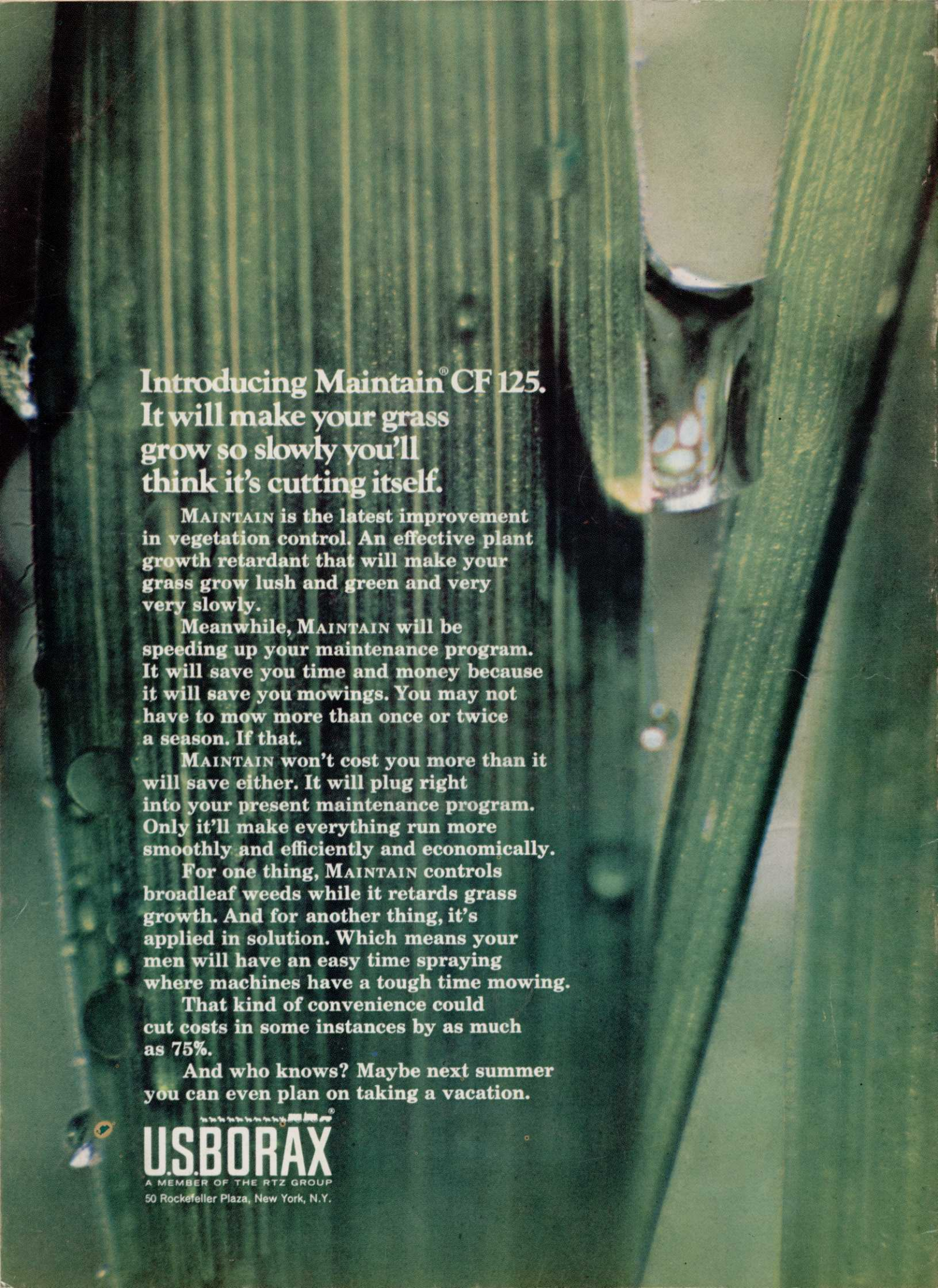

Introducing Maintain® CF 125. It will make your grass grow so slowly you'll think it's cutting itself.

MAINTAIN is the latest improvement in vegetation control. An effective plant growth retardant that will make your grass grow lush and green and very very slowly.

Meanwhile, MAINTAIN will be speeding up your maintenance program. It will save you time and money because it will save you mowings. You may not have to mow more than once or twice a season. If that.

MAINTAIN won't cost you more than it will save either. It will plug right into your present maintenance program. Only it'll make everything run more smoothly and efficiently and economically.

For one thing, MAINTAIN controls broadleaf weeds while it retards grass growth. And for another thing, it's applied in solution. Which means your men will have an easy time spraying where machines have a tough time mowing.

That kind of convenience could cut costs in some instances by as much as 75%.

And who knows? Maybe next summer you can even plan on taking a vacation.

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